DOCUMENT RESUME

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ABSTRACT

This document lists equipment and equipment-like supplies used in classrooms in nine vocational education programs in North Carolina. It was prepared to help local educational agencies assess the adequacy of their vocational education equipment; identify and plan for equipment purchases to meet the minimum requirements; and determine the feasibility of offering a new vocational course sequence. An introduction explains the handbook's purpose and its organization. It is followed by a short list of equipment and supplies common to all vocational programs. The bulk of the handbook consists of tables that list the equipment and supplies used in agricultural education, business and office education, career exploration, health occupations education, home economics education, industrial arts/technology education, marketing education, principles of technology, and trade and industrial education. In addition to each kind of equipment and supply, the tables suggest their quantity (per lab or per student). The appendix contains an excerpt from the North Carolina legislation that requires the development of equipment standards. (CML)

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TABLE OF CONTENTS

	PAGES
Introduction	3
Purpose of Handoook	3
Organization	3
Common Vocational Education Equipment Needs	5
Agricultural Education	7-72
Business and Office Education	73-103
Career Exploration	105-116
Health Occupations Education	117-122
Home Economics Education	123-153
Industrial Arts/Technology Education	155-187
Marketing Education	189-192
Principles of Technology	193-198
Trade and Industrial Education	199-240
Appendix A – Senate Bill 23, Section 90, 1983 General Assembly	241

INTRODUCTION

Purpose of Handbook

All vocational classrooms require equipment. This handbook's equipment standards have been prepared to assist local educational agencies in:

1. Assessing the adequacy of their vocational education equipment,
2. Identifying and planning for equipment purchases to meet the minimum requirements, and
3. Determining the feasibility of offering a new vocational course sequence.

The equipment definition used in preparing the listings is found in the *Vocational Education Fiscal and Policy Guide.* (The definition complies with the state and federal definition of equipment.) "An equipment item is a material unit which meets all of the following conditions: (1) It retains its original shape and appearance with use, (2) It is nonexpendable, that is, if the article is damaged or some of its parts are lost or worn out, it is usually more feasible to repair it rather than replace it with an entirely new unit (which is not true of supplies), (3) It represents an investment of money which makes it feasible and advisable to capitalize the item, and (4) It does not lose its identity through incorporation into a different or more complex unit or substance."

Critical to the operation of any vocational program are supplies. This handbook contains a *partial* listing of supplies—only those inexpensive items having the characteristics of equipment. Those articles are replaced when damaged or worn out, unlike equipment items.

At the end of each supplies listing, there is a note indicating an additional amount that should be budgeted per student for consumable items. (In computing this amount, all items on the list were excluded.) These consumables are also critical for program operation. The curriculum guides from each program area have more extensive listings for consumable and instructional supplies. The supply list also excludes textbooks, reference books, and audiovisual materials.

Organizational of Handbook

The minimum equipment and partial supplies listings are organized by the eight vocational program areas. Principles of Technology I and II are also included. Lists are further divided by course or course cluster. The quantity is shown per lab/classroom or by student ratio. Optional items are denoted by an asterisk. Each program area's section is prefaced with points to consider in reviewing the list. While some of these listings are in program area curriculum guides, this handbook compiles these listings into one document.

Senate Bill 23, Section 90, 1983 General Assembly, is in Appendix A. This legislation specifies that the State Board of Education must develop equipment standards for local use.

Funding Eligibility

The equipment and supplies included in this handbook represents those items needed to meet minimum standards for specific courses. As a result, all items are *not* eligible for payment from state and federal vocational funds. Please refer to the *Vocational Education Fiscal and Policy Guide* for further clarification about eligibility and other guidelines regarding equipment purchases, disposition, and maintenance.

Additional Information

For further information or clarification about any program area listing, please contact the program area chief consultant at this address:

Division of Vocational Education
116 West Edenton Street
Raleigh, NC 27603-1712

COMMON VOCATIONAL EDUCATION EQUIPMENT NEEDS

Regardless of the program area, all vocational classrooms need or should have easy access to these items:

- Overhead projector
- Teacher desk
- Filing cabinet(s)
- Audio Cassette recorder
- Student desks or tables to accommodate equipment and students
- Filmstrip projector
- Typewriter or microcomputer
- Copier
- Transparency maker
- Videocassette Recorder
- Storage for books and materials
- 16mm film projector
- 35mm slide projector
- 35mm camera
- Video recorder, camera and monitor
- Projector screen

All teachers using the cooperative method of instruction should have easy access to a telephone, preferably in the teacher's office.

AGRICULTURAL EDUCATION

A list of the minimum equipment and supplies for conducting effective instruction is provided for each of the following agricultural courses:

1. Agricultural Engineering Technology
2. Agriculture In Our Lives
3. Agricultural Production and Management
4. Homestead and Gardening Skills
5. Horticulture
6. Introduction to Agriculture/Natural Resources
7. Natural Resources Management

It is emphasized that these lists contain minimum requirements. Additional equipment and supplies should enhance the quality of instruction if they relate to the content and competencies identified for a course.

These lists can be used to access the equipment/supply needs of the local programs and to identify needed items. If a new program is being planned, these lists will serve as guidelines for the initial purchase of the equipment and supplies.

Additional information about facilities, equipment, supplies, and consumables for agriculture courses can be secured from Agricultural Education, Department of Public Instruction.

Optional equipment and supplies are denoted by an asterisk.

AGRICULTURAL EDUCATION
Equipment List

Agricultural Engineering Technology, I, II, III

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Anvil, blacksmith	1	
Auger, post	1	
Bandsaw, metal cutting electric	1	
Bandsaw, woodworking 12" minimum	1	
Barrow, wheel		1:4
Bench, work	1	
Bits, auger 1/4" through 1" by 16ths.	1	
Bits, expansion	1	
Bits, electrician (3/8" by 8" and 24")	1	
Bits, forstner 3/8" to 1" by 16ths.	1	
Bits, hollow mortise 1/4", 3/8" - 1/2"	1	
Bits, machine - spur- 1/4" to 1" by 8ths.	1	
Bits, router, straight shank (set)	1	
Box, mitre with saw	1	
Center, basic tune-up	1	
Chain, engine pulling	1	
Chain, log	1	
Charger, battery	1	
Clamps, bar 2', 4', 6', 8'		1:4
Clamps, C-2 1/2", 3", 4", 6", 8"		1:4
Compressor, air	1	
Cutter, bolt	1	
Cutter, pipe	1	
Digger, post hole	2	
Drill, electric portable variable speed (1/4", 3/8", and 1/2")	2	
Drill, masonary (set)	1	
Drill, star (1/4" - 3/4" - 1/2")	1	
Drill, straight shank carbon 1-14" by 64th to 1"	1	
Drill, short high speed set 1-14" by 64th to 1/2"	1	
Drill, bit stock	1	
Drill, blacksmith	1	
Engines, small gasoline (2 and 4 cycle)	4	
Gauge, drill 1/16" to 1/2" by 64th.	1	
Grinder, bench 6"	1	
Grinder, Bench 10"	1	
Gun, electric soldering		1:4
Gun, grease lever operated cartridge type	1	
Gun, paint, 1 quart capacity 50' hose & coupling	1	

AGRICULTURAL EDUCATION
Equipment List

Agricultural Engineering Technology, I, II, III – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Hammer, sledge – 8 lbs.	8	
Hoe, mortar	2	
Hoist, chain 1-1/2 ton	1	
Jack, hydraulic 1-1/2 ton	1	
Jointer, 6″ or 8″	1	
Ladder, wooden, aluminum 6′ or 8′	1	
Ladder, wooden, aluminum 32′	1	
Lathe, metal	1	
Level, carpenter	1	
Level, mason	1	
Level, transit (tripod and leveling rod)	1	
Micrometer – inside/outside	2	
Nailer, portable electric	1	
Pan, mortar	1	
Plane, portable electric	1	
Planer	1	
Press, drill	1	
Regulator, voltage	1	
Router, portable electric	1	
Sander, 6″ belt 12″ disc finishing machine	1	
Sander, grinder portable electric	1	
Sander, portable electric (belt, disc, vibrator)	1	
Saw, portable electric, circular	2	
Saw, radial arm 10″ to 14″	1	
Saw, 10″ or 12″ tilting arbor	1	
Saw, saber portable electric	2	
Shovels, (round, flat)	1	
Sprayer, portable	1	
Stretcher, wire	2	
Table, welding		1:4
Tap and die set, metric	1	
Tap and die set, N.F. & N.C. – set 1/4″ to 1″	1	
Tester, meter type to include	1	
1) timing light		
2) amps, volts, regulator, tester		
3) dwell tach tester		
4) meter ignition		
5) mobile floor stand		

AGRICULTURAL EDUCATION
Equipment List

Agricultural Engineering Technology, I, II, III — *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Threader, ratchet pipe (set)	1	
Unit, spray shop	1	
Vise, drill press 6″ opening	1	
Vise, hinged pipe	1	
Vise, machinist 4-1/2″ - 6″	1	
Vise, woodworking 6″ - 8″		1:4
Washer, parts	1	
Welder, electric arc		1:4
Welder, mig	1	
Welder, oxyacetylene – including tanks, hoses, regulators, wrenches, blowpipes, cutters, tips, and two cylinder truck		1:4
Wrench, box of 6 piece set 3/8″ to 1″ by 16ths.	1	
Wrench, combination metric 7mm through 22mm	1	
Wrench, combination set standard 1/4″ - 1-1/4″ by 16ths.	1	
Wrench, deep socket standard 3/8″ through 13/16″	1	
Wrench, open end - 6 piece set 3/8″ to 1″ by 16ths.	1	
Wrench, ratchet box set of 4	1	
Wrench, socket set (metric)	1	
Wrench, socket set (standard)	1	
Wrench, torque 1/4″, 3/8″ end 1/2″ drive with adapter	1	
Wrenches, pipe 8″ - 10″ - 14″ - 16″	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Engineering Technology, I, II, III

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Anvil, stand	1	
Awl, scratch	8	
Axe, handle, single bit	1	
Bar, pry, 17″ rolling head	1	
Bar, tamping	1	
Bar, wrecking 3/4″ x 30″ goose neck	2	
Battery, booster cable	1	
Bevel, sliding T	2	
Bits, screwdriver (slotted)	1	
Bits, screwdriver, slotted (phillips)	1	
Bob, plumb	1	
Bore, counter	1	
Brace, 10″ ratchet		1:4
Brushes, desk or bench duster		1:3
Brushes, paint 3″		1:3
Brushes, sash 1″ and 1 1/2″		1:3
Brushes, rotary wire - 8″	1	
Brushes, wire (assorted sizes)	1	
Brushes, carbon removing 1″ diameter 1/4″ shank	1	
Brushes, buffing 6″ - 1/2″ arbor hole	1	
Calipers, inside 10″	2	
Calipers, outside 10″	2	
Can, oil squirt	2	
Card, file	1	
Cell, photo-electric	1	
Chisel, brick		1:6
Chisels, cold 3/8″ - 1/2″ - 3/4″ - 1″ 1:6 (flat, cape, round, diamond)		1:6
Chisels, hollow mortise - 1/4″, 3/8″, 1/2″	1	
Chisels, wood-set 1/4″ to 1″ by 16ths.	1	
Containers, cutting oil - 1 gallon capacity	1	
Container, gasoline - 5 gal - capacity	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Engineering Technology, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Container, safety can (waste oil materials)	1	
Container, solvent, 5 gallon capacity	1	
Copper, soldering with handle -1 and 2 lbs. each	2	
Countersink, bit stock	3	
Cords, electrical extension 25′ and 50′	2	
Creeper, mechanics	2	
Crimper, wire	1	
Cutter, glass		1:3
Cutter, plug (set)	1	
Cutter, tube	1	
Drawknife, wood – 10″	1	
Dresser, carborundum stick	1	
Dresser, emery	1	
Divider, spring Type 8″ – 10″ each		1:6
Drills, electric portable-variable speed (1/4″, 3/8″ and 1/2″)		
Drill, hand	4	
Drill, push pull	2	
Drill, tapered shank	1	
Edger, cement	2	
Extractor, screw 1/8″ to 11/32″ square shank set	1	
Files, assorted set 4″ to 12″ mill, flat, round, square, auger, triangular, thread and half rod	2	
Gauge, bit adjustable 1/4″ to 1″	1	
Gauge, marking		1:2
Gauge, miter	1	
Gauge, screw – pitch	1	
Gauge, tap and drill	1	
Gauge, wire and sheet steel	1	
Glasses, safety	1	
Gloves, welding		1:2
Goggles, grinding, (Safety)	4	
Gun, caulking	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Engineering Technology, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Gun, stapler, electric 1/4″ – 3/8″	1	
Groover, cement	1	
Hacksaw, frame and blade	4	
Hammer, ball pein, 8, 12, 16 oz.	1	
Hammer, blacksmith 32 oz.	1	
Hammer, brick	2	
Hammer, engineers cross pein	1	
Hammer, curved claw – 13 oz. – 16 oz. each	8	
Hammer, plastic tip	3	
Hammer, riveting	2	
Hammer, ripping – 16 oz.		
Hammer, tack, magnetic	1	
Hammer, tinners, setting 12 oz.	1	
Hammer, blacksmiths, to fit anvil	1	
Handles, file-screw on type	6	
Hatchet, broad or half	1	
Hatchet, shingle	1	
Head, dado (blades for 10″ table saw and 10″ with radial arm saw	1	
Head, moulding for 10″ table saw and 10″ radial arm saw including assortment of cutters	1	
Hose, water 3/4″ x 50′ with fittings	1	
Hydrometer, battery	2	
Indicator, speed	1	
Iron, electric soldering, 300 watts	2	
Jointer, brick	1	
Jointer, skate wheel	1	
Kit, first aid	1	
Knife, pocket	1	
Knife, putty	6	
Level, line	1	

12

AGRICULTURAL EDUCATION
Supply List

Agricultural Engineering Technology, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Letters, steel – 1/4″ letters	1	
Letters, steel – 1/4″ figures	1	
Mallet, plastic	4	
Mallet, rubber	4	
Mallet, wood	4	
Marking tool, electric graver – 120 V, 60 Cycle	1	
Meter, gasoline flow	1	
Nipper, end-cutting	2	
Oiler, measures – 2 qt. pump. 7/8 pt., trigger 6 oz. trigger oz. 6″ span	2	
Pan, drain and clean	6	
Plane, block 4″, 6″	3	
Plane, jack	3	
Plane, jointer	1	
Plane, smooth	3	
Pliers, battery	1	
Pliers, diagonal	1	
Pliers, electricians	2	
Pliers, fencing	2	
Pliers, hose clamp	1	
Pliers, ignition	4	
Pliers, locking	4	
Pliers, long nose	4	
Pliers, needle nose	4	
Pliers, round nose	4	
Pliers, slip joint 6″, 8″, 10″	6	
Pliers, side cutting	2	
Pliers, snap ring, internal and external	2	
Pliers, vise grip	4	
Points, trammel	1	
Puller, battery clamp	1	
Puller, staple	2	

AGRICULTURAL EDUCATION
Supply List

Agricultural Engineering Technology, I, II, III - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Punches, center 3/8" and 1/2"	2	
line up 9", 10", 12"		
long tapered (set)		
pins 3/32", 5/32", 1/4", 5/16"		
soild 6, 7		
Rasp, cabinet 10", 12", flat and half round	2	
Reamer, burring	1	
Reamer, spiral ratchet pipe	1	
Respirator, (for painting) disposal type cartridge	2	
Rule, blacksmiths, 36"	4	
Rule, bench 2 ft.	6	
Rule, steel, 6", 8", 12", 18"	6	
Rule, zigzag, wood 6'	6	
Saw, back	2	
Saw, compass - 12"	2	
Saw, coping	3	
Saw, hand cross cut 8 points - 10 points each	6	
Saw, hacksaw - adjustable 10" to 12" frame	4	
Saw, hand rip saw 5 1/2" points	4	
Scissors, industrial trimmers, 12"	2	
Scraper, (cabinet)	4	
Scraper, wood	4	
Screwdriver, offset tip width 1/4" - 5/16"	1	
Screwdriver, phillips set 3/14" - 1/4" - 5/16"	1	
Screwdriver, slotted tip set width 1/4", 3/16", 5/16", 3/8", 1/2"	1	
Screwdriver, stubby (slotted and phillips)	2	
Screwdriver, spiral ratchet	3	
Screwmate	4	
Seamer, hand	1	
Set, handsaw, adjustable	1	
Set, nail 1/32" - 1/6" - 3/32" - 1/8" each	1	
Set, rivet #6 and #8	2	
Shafts, flexible	1	
Shears, double cutting	2	
Shields, eye, clear vision		1:3

14

AGRICULTURAL EDUCATION
Supply List

Agricultural Engineering Technology, I, II, III - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Snips, aviation	2	
Snips, duckbill	2	
Snips, straight tine	2	
Splicer, wire	4	
Spout-can topper and pour spout	1	
Square, combination	6	
Square, framing	6	
Square, try and mitre	6	
Stencils, set of 1/2", 2", 3", letters and figures	1	
Stripper, wire	4	
Stone, combination oil	4	
Tapes, flexible steel, 6' - 8' - 12' - 100' each	6	
Tester, circuit	2	
Tester, continuity	2	
Tester, anti freeze	1	
Tester, timing	1	
Tester, battery	1	
Thermostat	1	
Timer, electric	1	
Tongs, blacksmith (curved lip-flat)	1	
Tool, crimping	2	
Tool, tube flaring	1	
Torch, electric arc	1	
Trowel, brick		1:6
Trowel, cement finishing		1:6
Trowel, pointing		1:6
Wrench, adjustable end 6", 8", 10", 12" and 15"	2	
Wrench, allen (metric) (hexkey)	1	
Wrench, allen, (standard) (hexkey)	1	
Wrench, basin	1	
Wrench, flexible handle 1/4", 3/8" and 1/2"	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Engineering Technology, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Wrench, speeder 3/8″ – 1/2″	1	
Wrench, universal joint 1/2″, 3/8″	1	
Wrench, observation	1	
Wrench, oil filter	1	
Wrench, rim – 4 way 22″ arm – 5/8″ diameter fits 3/4″, 13/16″, 7/8″ and 15/15″ hexnuts	1	
Small Gasoline Engines and Motors		
Balancer, mower blade	1	
Brush, parts cleaning	2	
Cleaner, piston groove	2	
Compressor, Valve spring	2	
Driver, bushing	2	
Driver, nut 1/4″, 5/16″, 1/16″		1:4
Expander, piston ring	2	
Extinguisher, fire	4	
File, ignition		1:4
Gauge, carburetor float	1	
Gauge, air pressure	1	
Gauge, thickness	4	
Gauge, spark plug	4	
Gauge, vacuum	1	
Grinder, valve (lapping tool)	1	
Holder, flywheel	1	
Hone, cylinder	1	
Light, neon timing	1	
Puller, flywheel	1	
Puller, gear	1	
Puller, valve insert	1	
Punches, brass 4″ and 6″ each	1	
Reamer, cylinder, ridge	1	
Reamer, valve gauge, counterbore finishing	1	
Refacer, cylinder ridge	1	
Refacer, valve	1	
Scrapper, autogasket		1:4

16

AGRICULTURAL EDUCATION
Supply List

Agricultural Engineering Technology, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Tachometer	1	
Tester, coil	1	
Tester, compression	1	
Tester, spark	1	
Tester, vacuum	1	
Tool, oil seal driving	1	
Voltmeter, 0-20 direct current	1	
Wrench, ignition set		1:4
Wrench, starter clutch	2	
Welding Electric Arc		
Aprons, welding		1:1
Clamp, welding C		1:4
Clamp, vise grip welding		1:4
Goggles, welding		1:1
Hammer, chipping		1:4
Hammer, peining		1:4
Helmet, welding		1:2
Positioner, welding		1:4
Shield, safety (hand)		1:2
Torch, carbon arc		1:4
Welding Oxyacetylene		
Handle, T		1:4
Wrench, 10 way combination		1:4
Drawing Equipment		
Board, drawing		1:1
Compass		1:1
Guide, lettering		1:4
Kit, French curve		1:4
Protractor		1:4
Rules, parallel		1:4
Templates, circle		1:4
Triangle, 45° × 45° × 90°		1:1
Triangle, 30° × 60° × 90°		1:1
Scale, architect		1:1
Square, Tee		1:1
Approximately $12 per student is needed to purchase consumable supplies such as nails, gas, sandpaper, solder and electrodes.		

AGRICULTURAL EDUCATION
Equipment List

Agricultural Production Management, I, II, III

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Anvil, blacksmith	1	
Auger, post	1	
Bandsaw, metal cutting electric	1	
Bandsaw, woodworking 12″ minimum	1	
Bench, work		1:4
Bits, auger 1/4″ through 1″ by 16ths.	1	
Bits, electrician (3/8″ by 8″ and 24″)	1	
Bits, forstner 3/8″ to 1″ by 16ths.	1	
Bits, hollow mortise 1/4″, 3/8″ - 1/2″	1	
Bits, machine - spur - 1/4″ to 1″ by 8ths.	1	
Chain, log 1/4″ x 14″	1	
Charger, battery		1:6
Chisels, cold 3/8″ - 1/2″ - 3/4″ - 1″ (flat, cape, round, diamond)	1	
Chisels, hollow mortise - 1/4″, 3/8″, 1/2″	1	
Chisels, wood set 1/4″ to 1″ by 16ths.	1	
Clamps, bar 2′, 4′, 6′, 8′		1:4
Clamps, C-2 1/2″, 3″, 4″, 6″, 8″		1:4
Compressor, air	1	
Cutter, bolt	3	
Digger, post hole	3	
Drill, electric portable variable speed (1/4″, 3/8″, and 1/2″)	3	
Drill, straight shank carbon 1-14″ by 16th. to 1″	3	
Drill, straight shank high speed set 1/14″ by 64ths. to 1/2″	3	
Engines, small gasoline (2 and 4 cycle)	4	
Grinder, bench 6″	1	
Grinder, bench 10″	1	
Hammer, sledge 8 lbs.	1	
Hoe, mortar	1	
Hoe, weeding/nurseryman	1	
Hoist, chain 1-1/2 ton	1	
Jack, hydraulic 1-1/2 ton	1	
Jointer, 6″ or 8″	1	
Level, transit (tripod and level rod)	1	
Pan, mortar	1	
Planer	1	
Press, drill	1	

AGRICULTURAL EDUCATION
Equipment List

Agricultural Production Management, I, II, III – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Punches, center 3/8″ and 1/2″	1	
line up 9″, 10″, 12″		
long tapered (set)		
pin, 3/32″, 5/32″, 1/4″, 5/1″		
solid – 6″, 7″		
Sander, 6″ belt 12″ disc finishing machine	1	
Sander, grinder portable electric	1	
Sander, belt, disc, orbital, portable electric	1	
Saw, hand rip saw – 5-1/2 points	5	
Saw, portable electric, circular	1	
Saw, radial arm 10″ to 14″	1	
Saw, saber portable electric	5	
Saw, 10″ or 12″ tilting arbor	1	
Tap and die set, N.F. & N.C. – set 1/4″ to 1″	1	
Tiller, rotary	1	
Tractor and equipment	1	
— bush hog		
— cultivator		
— disc		
— fertilizer distributor		
— planter		
— plow		
Vise, drill press 6″ opening	1	
Vise, hinged pipe	1	
Vise, machinist 4-1/2″ – 6″	1	
Vise, woodworking 6″ – 8″		1:4
Welder, electric arc		1:4
Welder, mig	1	
Wrench, box of 6 piece set 3/8″ to 1″ by 64ths.	1	
Wrench, combination metric 7mm through 22mm	1	
Wrench, combination set standard 1/4″ – 1-1/4″ by 16ths.	1	
Wrench, deep socket metric 7mm through 22mm	1	
Wrench, deep socket standard 3/8″ through 13/16″	1	
Wrench, open end – 6 piece 3/8″ to 1″ by 16ths	1	
Wrench, ratchet box set of 4	1	
Wrench, socket set (metric)	1	
Wrench, socket set (standard)	1	
Wrench, torque 1/4″, 3/8″ end 1/2″ drive with adapter	1	
Wrenches, pipe 8″ – 10″ – 14″ – 16″	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Anvil, stand	1	
Applicator, methyl bromide	1	
Aprons, welding		1:1
Awl, scratch	6	
Axe, handle, single bit	1	
Bar, planting	2	
Bar, pry, 17", rolling head	2	
Bar, tamping	1	
Bar, wrecking 3/4" × 30" goose neck	2	
Barrow, wheel	1	
Battery, booster cable	1	
Bevel, sliding T	2	
Bits, router, straight shank (set)	1	
Bits, screwdriver (slotted)	1	
Bits, screwdriver (phillips)	1	
Bob, plumb	1	
Bore, counter	1	
Box, miter with saw	1	
Brace, 10" ratchet		1:4
Brushes, desk or bench duster		1:3
Brushes, paint 3"		1:3
Brushes, sash 1" and 1-1/2"		1:3
Brushes, rotary wire - 8"	1	
Brushes, wire - (assorted sizes)		
Brushes, wire removing 1" diameter 1/4" shank	1	
Brush, buffing 6" - 1/2" arbor hole	1	
Calipers, inside 10"	1	
Caliper, outside 10"	1	
Can, oil squirt	2	
Card, file	2	
Cell, photo-electric	1	
Chisel, brick	1	
Chisel, grafting		1:4

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Clamps, C - handscrews 6″ – 8″ – 10″ openings		1:4
Containers, cutting oil 1 gallon capacity	1	
Container, gasoline – 5 gal – capacity	1	
Container, safety can (waste oil materials)	1	
Containers, solvent, 5 gallon capacity	1	
Copper, soldering with handle – 1 and 2 lbs. each		1:6
Countersink, bit stock		1:4
Cords, electrical extension 25′ and 50′	2	
Creeper, mechanics	2	
Cutter, glass		1:4
Cutter, pipe		1:4
Cutter, tube		1:4
Dibble		1:4
Divider, spring type-8″-10″ each		1:6
Drawknife, wood-10″		1:4
Dresser, corborundum stick		1:4
Dresser, emery		1:4
Drill, breast	2	
Drill, hand	3	
Drill, masonary	3	
Drill, push pull	3	
Drill, star (1/4″–3/4″–1/2″)	3	
Extractor, screw 1/8″ to 11/32″ square shank set	3	
Files, assorted set 4″ to 12″ mill, flat, round, square, auger, triangular, thread and half round	3	
Float, wood	3	
Fork, spading	3	
Gauge, bit adjustable 1/4″ to 1″	2	
Gauge, drill 1/16′ to 1/2″ by 64ths.	2	
Gauge, marking	2	
Gauge, miter	2	
Gauge, screw-pitch	2	
Gauge, tap & drill	2	
Gauge, wire and sheet steel	2	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Gloves, welding		1:4
Goggles, grinding		1:2
Gun, caulking	1	
Gun, electric soldering		1:4
Gun, grease, lever operated, cartridge type	2	
Gun, stapler, electric 1/4"-3/8"	1	
Groover, cement	4	
Hacksaw, frame and blade	1	
Hammer, ball pein, 8, 12, 16 oz.	1	
Hammer, blacksmith 32 oz.	1	
Hammer, brick	2	
Hammer, engineers cross pein	1	
Hammer, curved claw – 13 oz. – 16 oz. each	8	
Hammer, plastic tip	3	
Hammer, riveting	1	
Hammer, ripping – 16 oz.	5	
Hammer, tack, magnetic	1	
Hammer, tinners, setting 12 oz.	1	
Hammer, blacksmiths, to fit anvil	1	
Handles, file-screw on type	6	
Hatchet, broad or half	1	
Hatchet, shingle	1	
Head, dado (blades for 10" table saw and 10" radial arm saw)	1	
Head, moulding for 10" table saw and 10" radial arm saw including assortment of cutters	1	
Hose, hanger	1	
Hose, water 3/4" × 50' with fittings	1	
Hydrometer, battery	1	
Indicator, speed	1	
Iron, electric soldering, 300 watts	2	
Jointer, brick	1	
Jointer, skate wheel	1	
Kit, first aid	1	
Knife, budding and grafting	2	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio m: Student
Knife, pocket	1	
Knife, putty	6	
Ladder, wooden 32′	1	
Ladder, step wooden 6′	1	
Level, aluminum 18″, 24″, 36″, 48″	1	
Level, line	4	
Level, mason	1	
Letters, steel – 1/4″ letters	1	
Letter, steel – 2/4″ figures	1	
Mallet, plastic	4	
Mallet, rubber	4	
Mallet, wood	4	
Marking tool, electric graver – 120v, 60 cycle	3	
Mask, gas	2	
Mat, propagating	1	
Meter, gasoline flow	1	
Micrometer – inside – outside	1	
Nailer, portable electric	1	
Nipper, end-cutting	1	
Oilers, measures – 2 qt. pump, 7/8 pt., trigger 6 oz. 6″ span	1	
Pan, drain and clear	6	
Plane, black 4″, 6″	3	
Plane, jack	3	
Plane, jointer	1	
Pliers, battery	1	
Pliers, diagonal cutting	4	
Pliers, electricians	4	
Pliers, hose clamp	1	
Pliers, ignition	4	
Pliers, locking	4	
Pliers, long nose	4	
Pliers, needle nose	4	
Pliers, round nose	4	
Pliers, side cutting	2	
Pliers, slip joint 6″, 8″, 10″	6	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Pliers, snap ring, internal and external	1	
Pliers, vise grip	4	
Points, trammel	1	
Pruners, hand	8	
Pruners, tree	1	
Puller, battery clamp	1	
Puller, fuse	1	
Rasp, cabinet 10, 12", – flat and half round	2	
Reamer, burring	1	
Reamer, spiral ratchet pipe	1	
Regulator, voltage	1	
Respirator, (for painting) disposal type cartridge	1	
Router, portable electric	1	
Rule, blacksmiths, 36"	4	
Rule, bench, 2'	6	
Rule, steel, 6", 12", 18"	6	
Rule, zigzag, wood 6'	6	
Saw, back	1	
Saw, bow	1	
Saw, compass, 12"	1	
Saw, coping	4	
Saw, hand cross out 8 points – 10 points each	8	
Saw, hacksaw – adjustable 10" to 12" frame	4	
Saw, pruning	2	
Scraper, (cabinet)	4	
Scraper, wood	4	
Screwdriver, offset tip width 1/4"–5/16"	1	
Screwdrivers, phillips set 3/14"–1/4"–5/16"	1	
Screwdriver, slotted set-tip width 1/4", 3/16", 5/16", 3/8", 1/2"	1	
Screwdriver, spiral ratchet	3	
Screwdriver, stud	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Screwmate	4	
Seamer, hand	1	
Set, handsaw, adjustable	1	
Set, nail 1/32″-1/16″, 3/32″, 1/8″ each	1	
Set, rivet #6 and #8	1	
Shafts, flexible	1	
Shears, hand	1	
Shears, double cutting	1	
Shields, eye, clear visor		1:4
Shovels, (round, flat)	1	
Snips, aviation	1	
Snips, duck bill	1	
Snips, straight tin	1	
Splicer, wire	1	
Spout-can topper and pour spout	1	
Sprayer, 3 gal hand	2	
Sprayer, orchard	1	
Spreader, broadcast (cyclone)	1	
Square, combination	6	
Square, framing	6	
Square, try and mitre	6	
Stencils, set of 1/2″, 2″, 3″ letters and figures	1	
Stripper, wire	4	
Stone, oil combination	4	
Tape, flexible steel - 6′ - 8′ - 12′ - 100′	1	
Tester, anti freeze	1	
Tester, battery	1	
Tester, circuit	1	
Tester, continuity	1	
Tester, meter type to include	1	
Tester, timing	1	
Thermostat	1	
Threader, ratchet pipe (set)	1	
Timer, electric	1	
Tongs, blacksmith (curved lip-flat)	1	
Tool, crimping	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Tool, grafting	4	
Tool, tube flaring	1	
Torch, carbon arc	1	
Trowel, brick		1:6
Trowel, cement finishing		1:6
Trowel, pointing		1:6
Unit, shop spray	1	
Washer, parts	1	
Wrench, adjustable end 6″, 8″, 10″, 12″ and 15″	1	
Wrench, allen (metric) (hexkey)	1	
Wrench, allen (standard) (hexkey)	1	
Wrench, basin	1	
Wrench, flexible handle 1/4″, 3/8″ and 1/2″	1	
Wrench, speeder 3/8″ – 1/2″	1	
Wrench, universal joint 1/2″, 3/8″	1	
Wrench, obstruction	1	
Wrench, oil filter	1	
Wrench, rim – 4 way 22″ arm – 5/8″ diameter fits 3/4″, 13/16″, 7/8″ and 15/15 hexnuts		
Small Gasoline Engines and Motors		
Balancer, mower blade	1	
Brush, parts cleaning	2	
Cleaner, piston groove	2	
Compressor, valve spring	2	
Driver, bushing	1	
Driver, nut 1/4″, 5/16″, 1/16″		
Expander, piston ring	2	
Extinguisher, fire	4	
File, ignition		1:4
Gauge, air pressure	1	
Gauge, carburetor float	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Gauge, spark plug	4	
Gauge, thickness	4	
Gauge, vacuum	1	
Grinder, valve (lapping tool)	1	
Holder, flywheel	1	
Hone, cylinder	1	
Light, neon timing	1	
Puller, flywheel	1	
Puller, gear	1	
Puller, valve insert	1	
Punches, brass 4" and 6" each	1	
Reamer, cylinder, ridge	1	
Reamer, valve guide, counterbore finishing	1	
Refacer, cylinder ridge	1	
Refacer, valve	1	
Scrapper, autogasket		1:4
Tachometer	1	
Tester, coil	1	
Tester, compression	1	
Tester, spark	1	
Tester, vacuum	1	
Tool, oil seal driving	1	
Voltmeter, 0-20 direct current	1	
Wrench, ignition set	1	
Wrench, starter clutch	1	
Drawing		
Board, drawing	1:1	
Compass	1:1	
Guide, lettering	1:4	
Kit, French curve	1:4	
Protractor	1:4	
Rules, parallel	1:4	
Templates, circle	1:4	
Triangle, 45° × 45° × 90°	1:1	
Triangle, 45° × 45° × 90°	1:1	
Scale, architect	1:1	
Square, Tee	1:1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Welding Electric Arc		
Aprons, welding		1:1
Clamp, welding C		1:1
Clamp, vise grip welding	1:4	
Goggles, welding	1:1	
Hammer, chipping	1:4	
Hammer, peining	1:4	
Helmet, welding	1:2	
Shield, safety (hand)		1:4
Table, welding		1:4
Torch, carbon arc		1:4
Crops and Soils		
Applicator, methyl bromide	1	
Auger, soil	2	
Balance, double beam	1	
Germinator, seed	1	
Hoe, garden	4	
Kit, soil test	1	
Kit, tissue test	1	
Mattock, garden	1	
Pick, railroad	1	
Rake, garden	4	
Scales, platform	1	
Sieve, hand seed	1	
Sieve, soil (set)	1	
Sprayer, hand	2	
Tester, crop moisture	1	
Thermometer, soil	1	
Tube, soil	2	
Land Measuring		
Compass	1	
Level, hand held	1	
Tape, steel 100′	1	
Tape, chain	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
LIVESTOCK:		
Fitting and Showing		
Brush, hoof cleaning	1	
Brush, grooming	1	
Brushes, cattleman hands	1	
Chisel, hoof	1	
Clipper, hand	1	
Clipper, portable electric	1	
Comb, curry	1	
Comb, scotch	1	
Holster, shoe leather	1	
Knife, hoof (folding)	1	
Pick, hoof	1	
Rasp, horn and hoof	1	
Scissors, trimming	1	
Shears, thinning	1	
Sticks, show	6	
Sprayer, hand	1	
Trimmers, hoof	1	
Livestock and Poultry, General		
Bull, leader	1	
Candler, egg	1	
Cathcer, ring-o-matic-hog	1	
Dehorner, calf	1	
Dehorner, chemical	1	
Dehorner, electrical	1	
Dehorner, mechanical	1	
Elastrators	1	
Emasculators	1	
Grader, egg	1	
Gun, balling	1	
Kit, dissecting	1	
Knife, castrating	1	
Notcher, ear	1	
Ringer, bull	1	
Ringer, fishook	1	

AGRICULTURAL EDUCATION
Supply List

Agricultural Production Management, I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Saw, dehorning	1	
Scale, egg	1	
Spreader, swine mouth	1	
Syringe, serum	1	
Stethoscope, veterinary style	1	
Tapes, cattle weighing	1	
Thermometer, veterinary	1	
Trocar and Cannula	1	
Tattoo, kit	1	
Approximately $10 per student is needed to purchase consumable items such as nails, gas, fertilizer, glue, pesticides and oil.		

AGRICULTURAL EDUCATION
Equipment List

Agriculture In Our Lives

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Bandsaw, wood cutting electric	1	
Barrow, wheel	1	
Bench, work		1:4
Digger, post hole	2	
Engines, small gasoline (2 and 4 cycle)	4	
Press, drill	1	
Sander, portable electric (belt, disc, orbital)	1	
Vise, drill press 6" opening	1	
Vise, machinist 4½–6	1	
Wrench, adjustable end 6", 8", 10", 12" and 15"	2	

AGRICULTURAL EDUCATION
Supply List

Agriculture In Our Lives

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Auger, post	2	
Auger, soil	1	
Axe, handle, single bit	1	
Bar, planting	4	
Can, oil squirt	2	
Container, cutting oil – 1 gal, capacity	1	
Container, gasoline – 5 gal. capacity	1	
Container, safety can (waste oil materials)	1	
Copper, soldering with handle – 1 and 2 lbs. each	2	
Cutter, bolt	1	
Drill, hand	4	
Drill, push pull	2	
Duster, garden	1	
Files, assorted set 4″ to 12″ mill flat, round, square. auger, triangular, thread and half round	2	
Gauge, wire and sheet steel	1	
Glasses, safety	1	
Goggles, grinding (safety)		1:1
Hacksaw, blade and frame	4	
Hammer, curved claw, 13 oz. each	8	
Hose, water 3/4″ x 50′ with fittings	1	
Iron, electric soldering. 300 watts	2	
Kit, first aid	1	
Kit, soil test	1	
Knife, budding and grafting	2	
Ladder, step wooden 6′	1	
Level, hand held	1	
Mallet, plastic	4	
Mallet, rubber	4	
Mallet, wood	1	
Pliers, locking	4	
Pliers, long nose	4	
Pliers, needle nose	4	
Pliers, round nose	4	
Pliers, slip joint 6″, 8″ and 10″	6	
Pliers, side cutting	4	
Pliers, vise grip	4	
Rake, garden, leaf removal	4	

AGRICULTURAL EDUCATION
Supply List

Agriculture In Our Lives - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Rule, bench 2′	6	
Rule, steel, 6″, 12″ and 18″	6	
Rule, zigzag, wood 6″	6	
Saw, back	2	
Saw, bow	1	
Saw, hand cross cut 8 point and 10 each	6	
Saw, hacksaw-adjustable 10″ to 12″	4	
Saw, pruning	4	
Screwdriver, phillips set 3/14″ - 1/4″ - 5/16″	1	
Screwdriver, slotted set-tip 1/4″, 3/16″, 5/16″, 3/8″ and 1/2″	1	
Shears, double cutting	1	
Shears, grass, hedge, looping hand	1	
Square, combination	1	
Square, try and miter	6	
Small Gasoline Engines and Motors		
Balancer, mower blade	1	
File, ignition		1:4
Gauge, spark plug	4	
Tester, compression	1	
Tester, spark	1	
Tester, vacuum	1	
Wrench, ignition set		1:4
Livestock		
Candler, egg	1	
Nippers, pigs teeth	1	
Notcher, ear	1	
Saw, dehorning	1	
Scale, egg	1	
Sprayer, hand	1	
Approximately $10 per student is needed to purchase consumable items such as nails, gas, solder, chemicals and paints.		

AGRICULTURAL EDUCATION
Equipment List

Homestead and Gardening Skills

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Aerator	1	
Auger, post	1	
Axe, handle, single bit	1	
Bandsaw, woodworking 12" minimum	1	
Barrow, wheel	1	
Bench, work		1:4
Bits, auger 1/4" through 1" by 16ths.	1	
Bits, electrician (3/8" by 8" and 24")	1	
Bits, router, straight shank (set)	1	
Chisel, cold 3/8" - 1/2" - 3/4" - 1"	1	
Chisel, wood - set 1/4" to 1" by 16ths.	1	
Clamps, baar 2', 4', 6', 8'	2	
Clamps, C-2 1/2", 3", 4", 6", 8"	2	
Clamps, handscrews 6" - 8" - 10" openings	1	
Cutter, bolt	1	
Digger, post hole	2	
Drill, electric portable-variable speed (1/4", 3/8", and 1/2")	1	
Drill, straight shank carbon 1-14" by 64th to 1"	1	
Drill, straight shank high speed set 1-14" by 64th. to 1/2"	1	
Duster, garden rotary	1	
Engines, small gasoline (2 and 4 cycle)	2	
Grinder, bench 6"	1	
Grinder, bench 10"	1	
Hammer, sledge - 8 lbs.	1	
Hoe, mortar	1	
Level, transit (tripod and leveling rod)	1	
Mower, lawn	1	
Press, drill	1	
Punches, center 3/8" and 1/2"	1	
line up to 9", 10", 12"		
long tapered (set)		
pins, 3/32", 5/32" 1/4", 5/16"		
solid, 6", 7'		
Router, portable electric	1	
Sander, belt, disc, vibrator, portable electric	1	
Saw, portable electric, circular	1	
Saw, 10" tilting arbor	1	

AGRICULTURAL EDUCATION
Equipment List

Homestead and Gardening Skills - *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Saw, saber portable electric	1	
Seeder, garden	1	
Seeder, vibrator	1	
Tiller, rotary	1	
Tractor, lawn and garden	1	
Vise, drill press 6" opening	1	
Vise, hinged pipe	1	
Weedeater	1	
Wrench, box of 6 piece set 3/8" to 1" by 64th.	1	
Wrench, combination metric 7mm through 22mm	1	
Wrench, combination set standard 1/4" - 1/14" by 16ths.	1	
Wrench, deep socket metric 10mm to 19mm	1	
Wrench, flexible handle 1/4", 3/8" and 1/2"	1	
Wrench, open end - 6 piece 3/8" to 1" by 16ths.	1	
Wrench, ratchet box set of 4	1	
Wrench, socket set (metric)	1	
Wrench, socket set (standard)	1	
Wrench, speeded 3/8" - 1/2"	1	
Wrench, torque 1/4", 3/8" end 1/2" drive with adapter	1	
Wrench, universal joint 1/2", 3/8"	1	
Wrenches, pipe 8" - 10" - 14" - 16"	1	

AGRICULTURAL EDUCATION
Supply List

Homestead and Gardening Skills

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Applicator, methyl bromide	1	
Auger, soil	1	
Bar, tamping	2	
Bar, wrecking 3/4" x 30" goose neck	2	
Bench, work		1:4
Bevel, sliding Tee	4	
Bits, expansion	1	
Bits, electrician (3/8" by 8" and 24")	1	
Bits, screwdriver (slotted)	1	
Bits, screwdriver, (phillips)	1	
Bob, plumb	1	
Bore, counter	1	
Box, mitre with saw	1	
Brace, 10" ratchet	3	
Brush, buffing 6" - 1/2" arbor hole	1	
Brushes, carbon removing 1" diameter 1/4" shank	1	
Brushes, desk or bench duster		1:3
Brushes, paint 3"		1:3
Brushes, rotary wire - 8"	1	
Brushes, sash 1" and 1 1/2"		1:3
Brushes, wire	6	
Can, oil squirt	1	
Can, sprinkling	1	
Card, file	1	
Chisel, brick	2	
Chisel, grafting	4	
Container, safety can (waste oil materials)	1	
Container, solvent, 5 gal. capacity	1	
Countersink, bit stock	1	
Cords, electrical extension 25' and 50'	1	
Crimper, wire	1	

AGRICULTURAL EDUCATION
Supply List

Homestead and Gardening Skills - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cutter, glass	4	
Cutter, pipe	1	
Cutter, tube	1	
Dibble	1	
Divider, spring-type - 8" - 10" each	2	
Drawknife, wood - 10"	2	
Dresser, carborundum stick	1	
Dresser, emery	1	
Drill, masonry (set)	1	
Drill, push, pull	1	
Edger, cement	1	
Extension, handle watering	1	
Extractor, screw 1/8" to 11/32" square shank set	1	
Files, assorted set 4" to 12" mill	1	
flat, round, square, auger, triangular, thread, and half round		
Float, wood	1	
Forks, spading	4	
Gauge, bit adjustable 1/4" to 1"	1	
Gauge, drill 1/16" to 1/2" by 64ths.	1	
Gauge, marking	1	
Gauge, mitre	1	
Gauges, screw-pitch	1	
Gauges, tap and drill	1	
Gauges, wire and sheet steel	1	
Glasses, safety		1:1
Gloves, welding		1:4
Goggles, grinding		1:4
Gun, caulking	1	
Gun, electric soldering	2	
Gun, grease, lever operated cartridge type	1	
Gun, paint, 1 qt. capacity with 50' hose and coupling	1	
Groover, cement	2	
Hacksaw, frame and blade	4	
Hammer, brick	2	

AGRICULTURAL EDUCATION
Supply List

Homestead and Gardening Skills – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Hammer, curved claw – 13 oz. – 16 oz. each	8	
Hammer, plastic tip	3	
Hammer, ripping – 16 oz.	5	
Hammer, tack magnetic	1	
Handles, file-screw on type	6	
Hatchet, broad or half	1	
Hose, hanger	1	
Hose, sprinkler triple tube	1	
Hose, water 3/4" x 50' with fittings	1	
Hydrometer, battery	1	
Hygrometer	1	
Iron, electric soldering, 300 watts	2	
Jointer, brick	1	
Jointer, skate wheel	1	
Kit, first aid	1	
Kit, soil test	1	
Kit, tissue test	1	
Knife, budding and grafting	3	
Knife, pocket	1	
Knife, putty	6	
Ladder, wooden 32'	1	
Ladder, step wooden 6'	1	
Level, aluminum	1	
Level, hand held	1	
Level line	1	
Levelmason	1	
Mallet, plastic	3	
Mallet, rubber	3	
Mallet, wood	3	
Mask, gas	2	
Mat, propagating	1	
Mattox, garden	1	
Meter, volt – OHM – AC – DC	1	
Nipper, end-cutting	1	
Nozzle, hose	1	

AGRICULTURAL EDUCATION
Supply List

Homestead and Gardening Skills - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Oiler, measures - 2 qt. pump, 7/8 pt. trigger, 6 oz. span	1	
Pan, drain and clean	6	
Pan, mortar	1	
Pick, railroad	1	
Plane, black 4" and 6"	3	
Plane, jack	3	
Plane, jointer	1	
Plane, smooth	3	
Planter, bulb	4	
Pliers, battery	1	
Pliers, diagonal cutting	1	
Pliers, electricians	1	
Pliers, fencing	2	
Pliers, hose clamp	1	
Pliers, ignition	4	
Pliers, locking	4	
Pliers, long nose	4	
Pliers, needle nose	4	
Pliers, round nose	4	
Pliers, slip joint 6", 8", 10"	6	
Pliers, side cutting	2	
Pliers, vise grip	4	
Pruners, hand	8	
Pruners, tree	1	
Puller, fuse	1	
Puller, staple	1	
Rake, garden, leaf removal	4	
Rasp, cabinet 10", 12", flat and half round	1	
Reamer, burring	1	
Reamer, spiral ratchet pipe	1	
Repirator, (for painting) disposal type cartridge	2	
Rule, bench, 2'	6	
Rule, steel	6	
Rule, zigzag, wood 6'	6	

AGRICULTURAL EDUCATION
Supply List

Homestead and Gardening Skills - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Saw, back	1	
Saw, bow	2	
Saw, compass - 12"	2	
Saw, coping	4	
Saw, hand cross 8 points - 10 points each	6	
Saw, hacksaw - adjustable 10" to 12" frame	4	
Saw, pruning	4	
Saw, hand rip saw - 5 1/2 points	4	
Scraper, (cabinet)	4	
Scraper, wood	4	
Screwdriver, offset tip width 1/4" - 5/16"	1	
Screwdriver, phillips set 3/14" - 1/4" - 5/16"	1	
Screwdriver, slotted set - tip width 1/4", 3/16", 5/16", 3/8", and 1/2"	1	
Screwdriver, spiral ratchet	2	
Screwdriver, stubby - slotted and phillips	1	
Screwmate	1	
Seeder, garden	1	
Seeder, vibrator	1	
Set, nail 1/32" - 1/16", 3/32", 1/8" each	1	
Set, rivet #6 and #8	1	
Shears, floral	4	
Shears, grass, hedge, loping hand	1	
Shears, portable electric	1	
Sieve, soil	1	
Snips, nurserymans	4	
Spades, nursery	2	
Sprayer, knapsack	2	
Sprinkler, lawn	2	
Stapler, tacker	1	
Stripper, flower stem	1	
Tapewriter	1	
Tamper	1	
Thermometer, electric heating cable 20° - 80° range	1	
Thomostat, soil	1	
Tool, grafting	4	
Treetote	2	
Trowels, garden, utility, transplanting	4	
Tube, soil	2	

40

AGRICULTURAL EDUCATION
Supply List

Homestead and Gardening Skills – continued

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Wrench, allen (metric) (hexkey)	1	
Wrench, allen (standard) (hexkey)	1	
Wrench, basin	1	
Wrench, obstruction	1	
Wrench, oil filter	1	
Wrench, rim – 4 way 22" arm – 5/8" diameter fits 3/4", 13/16", 7/8" and 15/16"	1	
Small Gasoline Engines and Motors		
Balancer, mower blade	1	
Brush, parts cleaning	2	
Cleaner, piston groove	2	
Compressor, valve spring	2	
Driver, bushing	2	
Driver, nut 1/4", 5/16", 1/16"		1:4
Expander, piston ring	2	
Extinguisher, fire	2	
File, ignition		1:4
Gauge, air pressure	1	
Gauge, carburetor float	1	
Gauge, spark plug		1:4
Gauge, thickness		1:4
Gauge, vacuum	1	
Gauge, valve	1	
Grinder, valve (lapping tool)	1	
Holder, flywheel	1	
Hone, cylinder	1	
Light, neon timing	1	
Puller, flywheel	1	
Puller, gear	1	
Puller, valve insert	1	
Punches, brass 4" and 6" each	1	
Reamer, cylinder, ridge	1	
Reamer, valve gauge	1	
Refacer, cylinder ridge	1	
Refacer, valve	1	
Scraper, autogasket	1	

AGRICULTURAL EDUCATION
Supply List

Homestead and Gardening Skills - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Tachometer	1	
Tester, coil	1	
Tester, compression	1	
Tester, spark	1	
Tester, vacuum	1	
Tool, oil seal driving	1	
Voltmeter, 0-20 direct current	1	
Wrench, ignition set	1	
Wrench, starter clutch	1	1:4
Drawing		
Board drawing		1:4
Compass		1:1
Guide lettering		1:4
Kit, French curve		1:4
Protractor		1:4
Rules, parallel		1:4
Templates, circle		1:4
Triangle, 45° × 45° × 90°		1:1
Triangle, 45° × 45° × 90°		1:1
Scale, architect		1:1
Square, Tee		1:1
Approximately $10 per student is needed to purchase consumable items such as pesticides, grease, gas, rooting media and grafting tape.		

AGRICULTURAL EDUCATION
Equipment List

Horticulture I, II, III

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Aerator, turf	1	
Auger, post	1	
Blower, mist	1	
Clocks, time	1	
Compressor, air	1	
Digger, post hole	2	
Drill, electric portable variable speed (1/4", 3/8", and 1/2")	2	
Engines, small gasoline (2 and 4 cycle)	2	
Generator, electric	1	
Grinder, bench 6"	1	
Grinder, bench 10"	1	
Misting system, 6 mist nozzle complete with pipe, risers, timing clocks (Watco mist control complet with salenoid)	1	
Mower, lawn	1	
Mower, lawn with thatching equipment	1	
Press, drill	1	
Roller, lawn	1	
Saw, chain	4	
Saw, 10" tilting arbor	1	
Saw, portable electric, circular	1	
Seeder, vibrator	1	
Shredder, soil (organic)	1	
Shovels, (round and square point)	1	
Sprayer, 3 gallon hand	2	
Sprayer, power 15 gallon capacity, 2 – 2-1/2 HP gasoline engines type cart with hose and sprayer gun	1	
Spreader, broadcast	1	
Spreader, drop	1	
Sterilizer, soil	1	
Tester, solubridge	1	
Tiller, rotary	1	
Tractor and equipment	1	
—dozing blade	1	
—cultivator, field	1	
—harrow, disc	1	
—loader, front end	1	
—mower, rotary 4' and 5'	1	

AGRICULTURAL EDUCATION
Equipment List

Horticulture I, II, III — *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Transit (with tripod and leveling rod)	1	
Vise, hinged pipe	1	
Vise, machinist 4-1/2" - 6"	1	
Weed eater	1	
Wrench, adjustable end 6", 8", 10", 12" and 15"	1	
Wrench, box of 6 piece set 3/8" to 1" by 16ths.	1	
Wrench, combination metric 7mm through 22mm	1	
Wrench, combination set standard 1/4" - 1-1/4" by 16ths.	1	
Wrench, deep socket metric 10mm to 19mm	1	
Wrench, deep socket standard 3/8" through 13/16"	1	
Wrench, open end - 6 piece 3/8" to 1" by 16ths.	1	
Wrench, socket set (metric)	1	
Wrench, socket set (standard)	1	
Wrenches, pipe 8" - 10" - 14" - 16"	1	

AGRICULTURAL EDUCATION
Supply List

Horticulture I, II, III

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Applicator, (fertilizer injection type)	1	
Applicator, methyl bromide, complete with hose	1	
Axes, Single bit and campers	1	
Bar, planting	4	
Cable, electric heating 60′	1	
Can, shear	1	
Can, sprinkling	1	
Cart, greenhouse	1	
Cart, nursery	1	
Chisel, grafting	4	
Cutter, flower cutter wire	1	
Cylinder, graduated	4	
Dibble	4	
Duster, bench	1	
Duster, garden, rotary	1	
Extension, handle watering	1	
Forks, spading - 30″ and 36″	4	
Gauge, water pressure	1	
Goggles, safety		1:1
Hammer, sledge	1	
Hanger, hose	1	
Hose, nursery/weeding	1	
Hose, sprinkler, triple tube-vinyl	2	
Hose, steam	1	
Hose, water 160′ nylon reinforced	2	
Injectors, fertilizer	1	
Knife, budding	4	
Knife, grafting	4	
Ladder, step wooden 6′	1	
Machine, pick	1	
Mat, propagation	1	
Magnifier, pocket	4	
Mattox, cutter	1	
Melter, lantern	1	
Meter, light	1	

AGRICULTURAL EDUCATION
Supply List

Horticulture I, II, III — *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Meter, moisture	1	
Nozzle, fog mist	1	
Nozzle, seeding	1	
Pick, railroad	1	
Planter, bulb	4	
Pliers, stapler	1	
Pruner, hand	8	
Pruners, tree	1	
Rakes, garden, leaf removal	4	
Respirator, filter-chemical with extra filter cartridge and goggles	2	
Respirator, full face meeting NIOSH regulation	2	
Saddles, pipe for 1/2" PVC pipe	10	
Sash-glass 3' x 6' for hot bed	5	
Saw, pruning	4	
Saw, bow	2	
Scale, chemical	1	
Scale, moisture (for spaghetti system)	1	
Scythe, seedmaster	1	
Shears, floral	4	
Shears, grass, hedge. loping hand	1	
Shears, portable electric	1	
Sieve, soil	1	
Snips, nurserymans	4	
Spades, nursery	2	
Sprayer, knapsack	2	
Sprinkler, lawn	2	
Stapler, tacker	1	
Stripper, flower stem	1	
Tapewriter	1	
Tamper	1	
Thermometer, electric heating cable 20° - 80° range	1	
Thermostat, soil	1	
Tool, grafting	4	

AGRICULTURAL EDUCATION
Supply List

Horticulture I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Treetote	2	
Trowels, garden, utility, transplanting	4	
Tube, soil	2	
Unit, solenoid	1	
Wheelbarrow	1	
GENERAL SUPPLIES		
Bevel, sliding T	2	
Bits, auger 1/4″ through 1″ by 16ths	1	
Bits, screwdriver (phillips)	1	
Bits, screwdriver (slotted)	1	
Brace, 10″ ratchet	1	
Brushes, desk or bench duster	3	
Can, oil squirt	1	
Container, gasoline 5 gal. capacity	1	
Container, safety can (waste oil materials)	1	
Cords, electrical extension 25′ and 50′	1	
Cutter, pipe	1	
Cutter, tube	1	
Dresser, emery	1	
Drill, straight shank carbon 1/14″ by 64th to 1″	1	
Drill, straight shank high speed set 1/14″ to 1/2″	1	
Files, assorted set 4″ to 12″ mill, flat, round square, auger, triangle thread and half round	1	
Goggles, grinding	1	
Gun, grease, lever operated, cartridge type	1	
Hacksaw, frame and blade	4	
Hammer, curved claw – 13 oz. – 16 oz. each	4	
Hammer, ripping – 16 oz.	4	
Kit, first aid	1	
Level, aluminum 24″	1	
Plane, black 4″, 6″	1	
Plane, jack	1	
Pliers, diagonal cutting	2	
Pliers, electricians	2	
Pliers, ignition	2	

AGRICULTURAL EDUCATION
Supply List

Horticulture I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Pliers, side cutting	2	
Pliers, slip joint 6″, 8″, 10″	4	
Reamer, burring	1	
Reamer, spiral ratchet pipe	1	
Rule, steel, 6″, 12″, 18″	6	
Rule, Zigzag, wood 6″	6	
Saw, coping	4	
Saw, hand cross cut 8 point	4	
Saw, hand rip saw, 5 1/2 points	3	
Screwdriver, offset tip width 1/4″ – 5/16″	1	
Screwdriver, phillips set 3/14″ – 1/4″ – 5/16″	1	
Screwdriver, slotted set-tip width 1/4″, 3/16″, 5/16″, 3/8″, 1/2″	1	
Screwdriver, spiral ratchet	1	
Square, combination	3	
Square, framing	3	
Square, try and mitre	3	
Tape, flexible steel, 6′ – 8′ – 12′ – 100′ each	3	
Threader, ratchet pipe (set)	1	
Tool, tube flaring		
Wrench, allen (metric) (hexnut)	1	
Wrench, allen (Standard) (hexkey)	1	
Wrench, flexible handle 1/4″, 3/8″ and 1/2″	1	
Wrench, torque 1/4″ and 3/8″ drive through adapters	1	
Wrench, universal joint 1/2″, 3/8″		
Small Gasoline Engines and Motors		
Balancer, mower blade	1	
Brush, parts cleaning	2	
Cleaner, piston groover	2	
Compressor, valve spring	2	
Driver, bushing	2	
Driver, nut 1/4″, 5/16″, 1/16″		1:4
Expander, piston ring	2	
Extinguisher, fire	2	
File, ignition		1:4

AGRICULTURAL EDUCATION
Supply List

Horticulture I, II, III - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Gauge, air pressure	1	
Gauge, carburetor float	1	
Gauge, spark plub	2	
Gauge, thickness	2	
Gauge, vacuum	1	
Grinder, valve	1	
Holder, flywheel	1	
Hone, cylinder	1	
Light, neon timing	1	
Puller, flywheel	1	
Puller, gear	1	
Puller, valve insert	1	
Punches, brass 4" and 6" each	1	
Reamer, cylinder, ridge	1	
Reamer, valve guide, counterbore finishing	1	
Refacer, cylinder ridge	1	
Refacer, valve	1	
Scrapper, autogasket	1	
Tachometer	1	
Tester, coil	1	
Tester, compression	1	
Tester, spark	1	
Tester, vacuum	1	
Took, oil seal driving	1	
Voltmeter, 0-20 direct current	1	
Wrench, ignition set	1	
Wrench, starter clutch	1	
Drawing Equipment		
Board drawing		1:1
Compass		1:1
Guide lettering		1:4
Kit, French curve		1:4
Protractor		1:4
Rules, parallel		1:4

AGRICULTURAL EDUCATION
Supply List

Horticulture I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Templates, circle		1:4
Templates, landscaping		1:4
Triangle, 45° × 45° × 90°		1:1
Triangle, 30° × 60° × 90°		1:1
Scale, architect		1:1
Square, Tee		1:1
Approximately $15 per student is needed to purchase consumable items such as rooting media, fertilizer, pesticides, and plastic covering.		

AGRICULTURAL EDUCATION
Equipment List

Introduction to Agriculture/Natural Resources

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Anvil, blacksmith	1	
Bandsaw, metal cutting electric	1	
Bandsaw, woodworking 12″ minimum	1	
Barrow, wheel	1	
Bench, work		1:4
Bits, auger 1/4″ through 1″ by 16ths.	1	
Bits, electrician (3/8″ by 8″ and 24″)	1	
Bits, forstner 3/8″ to 1″ by 16ths.	1	
Bits, hollow mortise 1/4″, 3/8″ - 1/2″	1	
Bits, machines - spur - 1/4″ to 1″ by 8ths.	1	
Compressor, air	1	
Digger, post hole	1	
Drill, electric portable variable speed (1/4″, 3/8″, and 1/2″)	2	
Engines, small gasoline (2 and 4 cycle)	4	
Grinder, bench 10″	1	
Hammer, sledge - 8 lbs.	1	
Jointer, 6″ or 8″	1	
Level, transit (tripod and leveling rod)	1	
Planer	1	
Press, drill	1	
Punches, center 3/8″ and 1/2″	1	
line up to 9″, 10″, 12″		
long tapered (set)		
pin, 3/32″, 5/32″, 1/4″, 5/16″		
solid 6″, 7″		
Sander, 6″ and 12″ disc finishing machine	1	
Sander, portable electric (belt, disc, orbital)	1	
Saw, portable electric, circular	1	
Saw, 10″ tilting arbor	1	
Saw, radial arm 10″ to 14″	1	
Saw, saber portable electric	1	
Tiller, rotary	1	
Vise, drill 6″ opening	1	
Vise, hinged pipe	1	
Vise, machinist 4-1/2 - 6	1	
Vise, woodworking 6″ - 8″		1:4

AGRICULTURAL EDUCATION
Equipment List

Introduction to Agriculture/Natural Resources – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Welder, electric arc	1	
Welder, oxyacetylene – including tanks, hoses, regulators, wrenches, blowpipes, cutters, tips and two cylinder truck	1	
Wrench, adjustable end 6″, 8″, 10″, 12″ and 15″	2	
Wrench, box of 6 piece set 3/8″ to 1″ by 64ths.		
Wrench, combination metric 7mm through 22mm	1	
Wrench, combination set standard 1/4″ – 1-1/4″ by 64ths.	1	
Wrench, deep socket metric 10mm to 19mm	1	
Wrench, deep socket standard 3/8″ through 13/16″	1	
Wrench, open end – 6 piece 3/8″ to 1″ by 16ths.	1	
Wrench, ratchet box set of 4	1	
Wrench, socket set (metric)	1	
Wrench, socket set (standard)	1	
Wrench, speeded 3/8″ – 1/2″	1	
Wrench, ten way combination	1	
Wrench, torque 1/4″ and 3/8″ drive with adapter	1	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Anvil, stand	1	
Applicators, methyl bromide	1	
Apron, welding		1:1
Auger, soil	2	
Auger, post	1	
Awl, scratch	8	
Axe, handle, single bit	1	
Bar, planting	4	
Bar, pry 17", rolling head	1	
Bar, tamping	1	
Bar, wrecking 3/4" x 30" goose neck	2	
Bevel, sliding T	2	
Bits, expansion	1	
Bits, router, straight shank (set)	1	
Bits, screwdriver, (slotted)	1	
Bits, screwdriver, (phillips)	1	
Bob, plumb	1	
Bore, counter	1	
Box, mitre with saw	1	
Brace, 10" ratchet		1:4
Brushes, desk or bench duster		1:3
Brushes, paint 3"		1:3
Brushes, sash 1" and 1 1/2"		1:3
Brushes, rotary wire, 8"	1	
Brushes, wire (assorted sizes)	6	
Brushes, carbon remaining 1" diameter 1/4" shank	1	
Brush, buffing 6" - 1/2" arbor hole	1	
Caliper, inside 10"	2	
Caliper, outside 10"	2	
Can, oil squirt	2	
Card, file	2	
Chisel, brick	1	
Chisels, cold 3/8" - 1/2" - 3/4" - 1 (flat, round, cape, diamond)	2	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Chisel, grafting		1:4
Chisel, hollow mortise - 1/4", 3/8", 1/2"	1	
Chisel, wood-set 1/4" to 1" by 16ths.	1	
Clamps, welding C		1:4
Clamps, vise grip welding		1:4
Clamps, bar 2', 4', 6', 8'		1:4
Clamps, C-2, 1/2", 3", 4", 6", 8"		1:4
Cleaner, tips	2	
Container, cutting oil - 1 gal. capacity	1	
Container, gasoline - 5 gal. capacity	1	
Container, safety can (waste oil materials)	1	
Container, solvent, 5 gal. capacity	1	
Copper, soldering with handle - 1 and 2 lbs. each	2	
Countersink, bit stock and straight shank	2	
Cords, electrical extension 25" and 50"	1	
Cutter, bolt	1	
Cutter, glass		1:3
Cutter, pipe	1	
Cutter, tube	1	
Drawknife, wood - 10"	1	
Dresser, carborundum stick	1	
Dresser, emery	1	
Dibble		1:4
Divider, spring type 8" and 10" each	1	
Drill, hand	4	
Drill, masonry (set)	1	
Drill, push pull	2	
Drill, start (1/4" - 3/4" - 1/2")	1	
Drill, straight shank carbon 1/14" by 64th.	1	
Drill, straight shank high speed 1/14" by 64th. to 1/2"	1	
Drill, bit stock	1	
Drill, blacksmith	1	
Drill, tapered shank	1	
Duster, garden	1	
Edger, cement	2	
Extractor, screw 1/8" to 11/32" square shank set	1	
Files, assorted set 4" to 12" mill, flat, round, square, auger, triangular, thread and half round	2	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Float, wood	1	
Forks, spading		1:4
Gauge, bit adjustable 1/4" to 1"	1	
Gauge, drill 1/16" to 1/2" by 64ths.	1	
Gauge, marking	2	
Gauge, mitre	1	
Gauge, screw-pitch	1	
Gauge, tap and drill	1	
Gauge, wire and sheet steel	1	
Glasses, safety	1	
Goggles, grinding (safety)		1:4
Goggles, welding		1:4
Gun, caulking	1	
Gun, electric soldering		1:4
Gun, grease, lever operated, cartridge type	1	
Gun, paint, 1 quart capacity 50' hose & coupling	1	
Gun, stapler electric 1/4" - 3/8"	1	
Groover, cement	1	
Hacksaw, blade and frame	4	
Hammer, ball pein 8, 12, 16 oz.	1	
Hammer, blacksmith	1	
Hammer, brick	2	
Hammer, chipping		1:4
Hammer, engineers cross pein	1	
Hammer, curved claw, 13 oz. - 16 oz. each	8	
Hammer, peining		1:4
Hammer, plastic tip	3	
Hammer, riveting	1	
Hammer, ripping - 16 oz.	5	
Hammer, tack, magnetic	1	
Hammer, tinners, setting 12 oz.	1	
Hammer, blacksmiths, to fit anvil	1	
Handle, Tee	1	
Handles, file-screw on type	6	
Hatchet, shingle	1	
Head, dado (blades for 10" table saw) and 10" radial arm saw)	1	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Head, moulding for 10" table saw and 10" radial arm saw including assortment of cutters	1	
Helmet, welding	1	
Hoe, mortar	3	
Hoe, weeding/nurserymans	1	
Hoist, chain 1-1/2 ton	1	
Hose, hanger	1	
Hose, water 3/4" x 50' with fittings	1	
Hydrometer, battery	1	
Indicator, speed	1	
Iron, electric soldering, 300 watts	2	
Jack, hydraulic 1-1/2 ton	1	
Jointer, brick	1	
Jointer, skate wheel	1	
Kit, first aid	1	
Kit, soil test	1	
Knife, budding and grafting	1	
Knife, pocket	1	
Knife, putty	6	
Ladder, wooden 32'	1	
Ladder, step wooden 6'	1	
Level, carpenter	1	
Level, hand held	1	
Level, line	1	
Level, masonry	1	
Letters, steel-1/4" letters	1	
Letters, steel 1/4" figures	1	
Lighter, torch	4	
Mallet, plastic	4	
Mallet, rubber	4	
Mallet, wood	4	
Marking tool, electric engraver 120 v 60 cycle	1	
Mask, gas	2	
Mat, propogating	1	
Mattox, garden	1	
Micrometer, inside-outside	1	
Nailer, portable electric	1	
Nipper, end-cutting	1	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Oiler, measures-2 qt. pump, 7/8" trigger 6 oz. 6" span	1	
Pan, drain and clean	6	
Pan, mortar	1	
Pick, railroad	1	
Plane, block 4", 6"	3	
Plane, jack	3	
Plane, jointer	1	
Plane, portable electric	1	
Plane, smooth	3	
Planter, bulb	2	
Pliers, battery	1	
Pliers, diagonal cutting	4	
Pliers, electricians	4	
Pliers, hose clamp	1	
Pliers, ignition	4	
Pliers, locking	4	
Pliers, long nose	4	
Pliers, needle nose	4	
Pliers, round nose	4	
Pliers, slip joint 6", 8", 10"	6	
Pliers, side cutting	4	
Pliers, snap ring, internal and external	2	
Pliers, vise grip	4	
Points, trammel	1	
Positioner, welding		1:4
Puller, battery clamp	1	
Puller, fuse	1	
Puller, staple	2	
Pruners, hand	8	
Pruners, tree	1	
Rake, garden, leaf removal	4	
Rasp, cabinet 10, 12, - flat and half round	1	
Reamer, burring	1	
Reamer, spiral ratchet pipe	1	
Respirator (for painting) disposal type cartridge	2	
Router, portable electric	1	
Rule, blacksmiths, 36"	4	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Rule, bench, 2′	6	
Rule, steel, 6″, 12″, 18″	6	
Rule, zigzag, wood 6′	6	
Saw, back	2	
Saw, bow	1	
Saw, compass - 12″	2	
Saw, coping	4	
Saw, hand cross cut 8 points 10 points each	6	
Saw, hand rip saw - 5½ points	4	
Saw, hacksaw - adjustable 10″ to 12″ frame	4	
Saw, pruning	4	
Scraper, (cabinet)	4	
Scraper, wood	4	
Screwdriver, offset tip width 1/4″ - 5/16″	1	
Screwdrivers, phillips set 3/14″ - 1/4″ - 5/16″	1	
Screwdriver, slotted set-tip width 1/4″, 3/16″, 5/16″, 3/8″, 1/2″	1	
Screwdriver, stud	1	
Screwdriver, spiral ratchet	1	
Screwmate	4	
Seeder, vibrator	1	
Set, handsaw, adjustable	1	
Set, nail 1/32″ - 1/16″., 3/32″, 1/8 each	1	
Set, rivet #6 and #8	1	
Shears, double cutting	1	
Shears, grass, hedge, lopping hand	1	
Shields, eye, clear, vision		1:3
Shovels, (round, flat)	1	
Snips., aviation	1	
Snips, straight tin	2	
Snips, duckbill	2	
Spout-can topper and pour spout	1	
Sprayer, 3 gal. hand	2	
Spreader, broadcast (cyclone)	1	
Spreader, drop	1	
Square, combination	6	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Square, framing	6	
Square, try and mitre	6	
Stencils, set of 1/2", 2", 3" letters	1	
Stripper, wire	4	
Stone, oil combination	4	
Table, welding	4	
Tap and Die set (metric)	1	
Tap, and die set - N.F. & N.C. - set 1/4" to 1"	1	
Tape, chain	1	
Tape, flexible steel, 6' - 8' - 12' - 100' each	1	
Tester, circuit	1	
Tester, continuity	1	
Tester, crop moisture	1	
Thermometer, soil	1	
Threader, ratchet pipe (set)	1	
Tool, grafting	4	
Tongs, blacksmith (curved lip-flat)	1	
Torch, carbon arc	1	
Trowel, brick		1:6
Trowel, cement finishing		1:6
Trowel, pointing		1:6
Tube, soil	3	
Unit, shop spray	1	
Wrench, allen, (metric) (hexkey)	1	
Wrench, allen (standard) (hexkey)	1	
Wrench, basin	1	
Wrench, flexible handle 1/4", 3/8" and 1/2"	1	
Wrench, universal joint 1/2", 3/8"	1	
Wrench, obstruction	1	
Wrench, oil filter	1	
Wrench, rim - 4 way 22" arm - 5/8" diameter fits 3/4", 13/16", 7/8" and 15/16" hexnuts	1	
Wrenches, pipe 8" - 10" - 14" - 16"	1	
Small Gasoline Engines and Motors		
Balancer, mower blade	1	
Brush, parts cleaning	2	
Cleaner, piston groover	2	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Compressor, valve spring	2	
Driver, bushing	2	
Driver, nut 1/4", 5/16", 1/16"		1:4
Expander, piston ring	2	
Extinguisher, fire	4	
File, ignition		1:4
Gauge, air pressure	1	
Gauge, carburetor float	1	
Gauge, spark plug	4	
Gauge, thickness	4	
Gauge, vacuum	1	
Grinder, valve (lapping tool)	1	
Holder, flywheel	1	
Puller, gear	1	
Puller, valve insert	1	
Punches, brass 4" and 6" each	1	
Reamer, cylinder, ridge	1	
Reamer, valve guide, counterbore finishing	1	
Refacer, cylinder ridge	1	
Refacer, valve	1	
Scrapper, autogasket		1:4
Tachometer	1	
Tester, coil	1	
Tester, compression	1	
Tester, spark	1	
Tester, vacuum	1	
Tool, oil seal driving	1	
Voltmeter, 0-20 direct current	1	
Wrench, ignition set		1:4
Wrench, starter clutch	1	
DRAWING		
Board, drawing		1:1
Compass		1:4
Guide, lettering		1:4
Kit, French curve		1:4

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Protractor		1:4
Rules, parallel		1:4
Templates, circle		1:4
Triangle, 45° × 45° × 90°		1:1
Triangle, 30° × 60° × 90°		1:1
Scale, architect		1:1
Square, Tee		1:1
Livestock		
Brush, hoof cleaning	1	
Brush, grooming	1	
Candler, egg	1	
Catcher, ring-o-matic hog	1	
Chisel, hoof	1	
Comb, curry	1	
Comb, scratch	1	
Clipper, hand	1	
Clipper, portable	1	
Dehorner, calf	1	
Dehorner, electrical	1	
Dehorner, mechanical	1	
Elastrators	1	
Emasculators	1	
Grader, egg	1	
Gun, balling	1	
Kit, tattoo	1	
Knife, castrating	1	
Knife, hoof (folding)	1	
Leader, bull	1	
Nippers, pigs teeth	1	
Notcher, ear	1	
Rasp, ham and hoof	1	
Ringer, bull	1	
Ringer, fishhook	1	
Rope – ¾" – nylon – 100'	1	
Saw, dehorning	1	
Scale, egg	1	
Shears, thinning	1	

AGRICULTURAL EDUCATION
Supply List

Introduction to Agriculture/Natural Resources - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Spreader, swine mouth	1	
Sprayer, hand	1	
Sticks, show	1	
Tapes, cattle weighing	1	
Trimmers, beef	1	
Approximately $10 per student is needed to purchase consumable items such as nails, gas, solder, electrodes, agriculture, chemicals and paints.		

AGRICULTURAL EDUCATION
Equipment List

Natural Resources Management I, II, III

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Anemometer	1	
Aerator	1	
Axe, bush 7½"	4	
Axe, bush 16"	4	
Axe, double bit	2	
Axe, pulaski	2	
Axe, single bit	4	
Bandsaw, woodworking 12" minimum	1	
Barometer, recording	1	
Bench, work		1:4
Blower, mist	1	
Chain, log	1	
Clinometer	1	
Compass, forestry		1:4
Compressor, air	1	
Drill, electric portable variable speed (1/4", 3/8", and 1/2")	1	
Engines, small gasoline (2 and 4 cycles)	2	
Grinder, bench 6"	1	
Grinder, bench 10"	1	
Hydrometer	1	
Incubator	1	
Jointer, 6" bed	1	
Kit, air pollution detection	1	1
Kit, soil test	1	
Kit, water test	1	
Kit, La Motte water test	1	
Level, transit (tripod and leveling rod)	1	
Meter, moisture	1	
Mower, lawn	1	
Psychometer	1	
Press, drill	1	
Router, portable electric	1	
Sander, belt orbital - portable electric	1	
Sander, 6" belt 12" disc finishing machine	1	
Sander, finishing	1	
Saw, chain		1:2
Saw, 10" tilting arbor	1	
Saw, portable electric circular	1	

AGRICULTURAL EDUCATION
Equipment List

Natural Resources Management I, II, III – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Seeder, broadcast	1	
Sprayer, back pack	1	
Sprayer, 3 gal.	2	
Tiller, rotary	1	
Tractor, lawn and garden	1	
Vise, drill press 6″ opening	1	
Vise, machinist 4½″ – 6″	1	
Vise, woodworking 6″ – 8″		1:4
Wrench, adjustable end 6″, 8″, 10″, 12″ and 15″	1	
Wrench, box of 6 piece set 3/8″ to 1″ by 16ths.	1	
Wrench, combination metric 7mm through 22mm	1	
Wrench, combination set standard 1/4″ – 1¼″ by 16ths.	1	
Wrench, deep socket metric 10mm to 19mm	1	
Wrench, deep socket standard 3/8″ through 13/16″	1	
Wrench, open end 6 piece 3/8″ to 1″ by 16ths.	1	
Wrenches, pipe 8″ – 10″ – 12″ – 16″	1	
Wrench, ratchet box set of 4	1	
Wrench, socket set (metric)	1	
Wrench, socket set (standard)	1	

AGRICULTURAL EDUCATION
Supply List

Natural Resources Management I, II, III

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Soil and Water		
Auger, soil	2	
Hammer, increment	1	
Level, Abney	1	
Level, three screw inverted	1	
Meter, ozone	1	
Saw, pruning		1:4
Sein, 100' - 2" mesh	1	
Sieve, soil	1	
Spade, soil sampling	1	
Thermometer, soil	1	
Tube, soil	2	
Weather Station		
Thermometer, maximum & minimum (recording)	1	
Rain and snow gauge	1	
Wind speed indicator	1	
Wind vane	1	
Forestry		
Altimeter, Haga	1	
Apron, lumber handlers		1:1
Arrows, surveyor's steel	20	
Auger, earth		
Bag, planting		1:4
Bar, planting		1:4
Binder, load	1	

AGRICULTURAL EDUCATION
Supply List

Natural Resources Management I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Binocular, field	1	
Blades, Bank	1	
Bob, plumb	1	
Books, tally (hand held)		1:1
Borer, increment	2	
Bush, hook	1	
Caliper, tree		1:4
Can, oil squirt	1	
Canteens		1:1
Caps, safety		1:1
Card, file	2	
Carrier, bark gauge	1	
Carrier, timber	1	
Cartridges, respirator	2	
Chaps, snake proof		1:4
Compass, pocket, ranger model 15T		1:4
Container, gas 5 gal	1	
Container, bar oil	1	
File, chain saw	4	
Gauge, bark	1	
Gauge, basal area	1	
Gauge, chain depth 1L	1	
Gauge, umber thickness	1	
Gun, tree marking	1	
Hats, safety		1:1
Hoe, Planting	4	
Pruner, tree	1	
Rake, fire	4	
Scale, tree and log		
Scribner, tree and timber		
Stick, Biltmore		1:1
Trimmer, tree		1:4

AGRICULTURAL EDUCATION
Supply List

Natural Resources Management I, II, III - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Drawing		
Board, drawing		1:1
Compass		1:1
Guide, lettering		1:1
Kit, French curve		1:4
Protractor		1:4
Rules, parallel		1:4
Template, circle		1:4
Triangle, 45° × 45° × 90°		1:1
Triangle, 30° × 60° × 90°		1:1
Scale, architect		1:1
Square, Tee		1:1
Small Gasoline Engines and Motors		
Balancer, mower blade	1	
Brush, cleaning parts	2	
Brush, wire	2	
Cleaner, piston groove	2	
Chisels, cold 1/2" cut	2	
Compressor, valve spring	2	
Container, gas - 5 gallong capacity	1	
Driver, bushing	2	
Driver, nut 1/4", 5/16", 1/16"		1:4
Expander, piston ring	2	
Extinguisher, fire	2	
File, ignition	6	
Gauge, carburetor float	1	
Gauge, air pressure	1	
Gauge, thickness	4	
Gauge, spark plug	4	
Gauge, Vacuum	1	
Gun, grease	1	
Grinder, valve	1	
Hammer, ball pein 1/2 lb.	2	
Hammer, plastic tip	3	
Holder, flywheel	1	
Hone, cylinder	1	

AGRICULTURAL EDUCATION
Supply List

Natural Resources Management I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Hydrometer, battery	1	
Knife, putty	6	
Light, neon timing	1	
Micrometer, 1"	1	
Pan, drain and clean	6	
Pliers, battery	1	
Pliers, slip joint 7"	6	
Pliers, needle nose 7"	4	
Pliers, long nose	4	
Puller, battery clamp	1	
Puller, flywheel	1	
Puller, gear	1	
Puller, valve insert	1	
Punches, brass 4" or 6" each	1	
Punches, steel 5/16"	1	
Reamer, cylinder, ridge	1	
Reamer, valve guide, counterbore finishing	1	
Refacer, cylinder ridge	1	
Refacer, valve	1	
Scrapper, autogasket	1	
Screwdriver, phillips 4" – 6" each	1	
Screwdriver, slot-headed 6" – 8" each	1	
Squirt can, oil	1	
Tachometer	1	
Tester, coil	1	
Tester, continuity light	1	
Tester, compression	1	
Tester, spark	1	
Tester, vacuum	1	
Tool, oil seal driving	1	
Voltmeter, 0-2 direct current	1	
Wrench, ignition set		1:4
Wrench, starter clutch	1	
General Supplies		
Axe, handle, single bit	2	
Bar, tamping	2	
Bar, wrecking 3/4" x 30" goose neck	2	
Barrow, wheel		1:4

AGRICULTURAL EDUCATION
Supply List

Natural Resources Management I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Bevel, sliding Tee	3	
Bits, auger 1/4" through 1" by 16ths.	1	
Bits, router, straight shank (set)	1	
Bit, screwdriver (slotted)	1	
Bit, screwdriver (phillips)	1	
Bob, plumb	1	
Brace, 10" ratchet	2	
Brushes, wire	5	
Can, oil squirt	1	
Card, file	1	
Chisel, wood-set 1/4" to 1" by 16ths.	1	
Container, gasoline 5 gal-capacity	1	
Container, safety can (waste oil materials)	1	
Digger, post hole	1	
Drill, hand	1	
Drill, straight shank carbon 1/14" by 64ths to 1"	1	
Files, assorted set 4" to 12" mill, flat, round, square, triangular, thread and half round	1	
Gun, grease, lever operated cartridge type	1	
Hammer, curved claw – 13 oz. – 16 oz. each	6	
Hammer, ripping 16 oz.	4	
Hammer, sledge – 8 oz.	1	
Handles, file-screw on type	6	
Hatchet, broad or half	1	
Knife, putty	6	
Level, 24"	1	
Mallet, plastic	3	
Mallet, rubber	3	
Mallet, wood	3	
Nipper, end-cutting	1	
Plane, block 4" to 6"	1	
Plane, jack	2	
Pliers, diagonal cutting	2	
Pliers, long nose	2	
Pliers, needle nose	2	
Pliers, slip joint 6", 8", 10"	6	
Pliers, side cutting	2	
Pliers, vise grip	1	

AGRICULTURAL EDUCATION
Supply List

Natural Resources Management I, II, III – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Rasp, cabinet 10", 12", flat and half round	1	
Rule, bench 2'	6	
Rule, steel 6", 12", 18"	6	
Rule, zigzag wood 6	6	
Saw, coping		1:4
Saw, hand cross cut	6	
Saw, hacksaw – adjustable 10" to 12" frame	2	
Saw, hand rip saw	4	
Screwdriver, offset tip width 1/4" – 5/16"	1	
Screwdriver, phillips set 3/14" – 1/4" – 5/16"	1	
Screwdriver, slotted set – tip width 1/4", 3/16", 5/16", 3/8" and 1/2"	1	
Screwdriver, stubby, slotted and phillips	1	
Screwdriver, spiral ratchet	1	
Set, nail 1/32", 1/16", 3/32", 1/8" each	1	
Sprayer, 3 gal hand	2	
Square, combination	4	
Square, framing	4	
Square, try and mitre	4	
Stencils, set of 1/2", 2", 3" letters and figures	1	
Stone, combination oil	4	
Tape, flexible steel, 6' – 8' – 12' – 100 each	4	
Wrench, allen (metric) (Hexkey)	1	
Wrench, allen, (standard) (hexkey)	1	
Wrench, flexible handle 1/4", 3/8" to 1" by 16ths.	1	
Wrench, ratcheting box set of 4	1	
Wrench, socket set (metric)	1	
Wrench, socket set (standard)	1	
Wrench, universal joint 1/2", 3/8"	1	
Wrench, flexible handle 1/4", 3/8" to 1" by 16ths.	1	
Wrench, universal joint 1/2", 3/8"	1	
Approximately $10 per student is needed to purchase consumable items such as ammunition, fertilizer, nails, topographic maps and recording charts.		

BUSINESS AND OFFICE EDUCATION

The primary objective of the Business and Office Education program is to provide opportunities for students to develop occupational competencies. Therefore, it is important that business teachers have space, equipment, supplies and teaching materials to implement these programs.

The instructional program in Business and Office Education requires a wide variety of office equipment, including electronic typewriters, electronic calculators, dictation/transcription equipment and microcomputers. Labor market trends and research studies indicate that competencies required in business and office careers demand proficiency on such equipment. The instructional program in business also requires a wide variety of instructional materials and consumable supplies. Therefore, an adequate sum of money should be allotted to the business department annually to meet these costs. This list is provided to assist in the development of a strong business education program. While modern office equipment is costly, if business education is to meet its objectives, schools must accept responsibility for providing realistic learning experiences.

While enrollment of a school is a controlling factor in the development of an effective business program, other factors must be considered. To a large extent, the kind of community determines the size and type of the business education program. Some communities will require much greater provision for Business and Office Education departments than others, due to a number of reasons—rapid growth, location near a large industrialized area, demand for highly specialized office personnel, outstanding school placement service, economic status, and proximity to a metropolitan area. It is important, therefore, that these and other factors are carefully reviewed in determining the type and scope of a school's business program, facilities, and equipment.

For more detailed information regarding equipment, please refer to the specific course guide for each course available from the Business and Office Education state office.

Optional equipment and supplies are denoted by an asterisk.

BUSINESS AND OFFICE EDUCATION
Equipment List

Administrative Support Occupations I & II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Electronic typewriter		1:2
and		
Microcomputer (256K, two disk drives)		1:2
Printer with stand	1:4 micros	
Switch box	1:4 micros	
Computer table (with adequate student workspace)	1 per micro	
L-shaped desk (40 x 48)	1 per typewriter	
Adjustable posture chair		1:1
Dictating/Transcribing machine		1:4
Desk-style calculator		1:4
*Simulated telephone system	1	
Bookshelf with magazine rack	1	
Work table	1	
File cabinet	1	

*Optional

BUSINESS AND OFFICE EDUCATION
Supply List

Administrative Support Occupations I & II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	2	
Diskettes		2:1
Printer paper tray	1 per printer	
Software programs (See course guide for specifics)		
Time clock/cards	1	
Stop watch	1	
Copy holder		1:1
Tapes for transcribers		1:1
Bulk eraser	1	
Consumable items such as practice sets, workbooks, simulations, typewriter ribbons, correction tape, calculator tape and ribbons, and computer paper and ribbons must be available for each student.		
Approximately $25 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Advanced Typewriting/Word Processing

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Electronic typewriter		1:2
and		
Microcomputer (256K, two disk drives)		
and/or Word Processor		1:2
Printer with stand	1:4 micros	
Switch box	1:4 micros	
L-Shaped desk (40 x 48)	1 per typewriter	
Adjustable posture chair		1:1
Computer table (with adequate student workspace)	1 per micro	
Dictating/Transcribing machine		1:4
Work table	1	
File cabinet	1	

BUSINESS AND OFFICE EDUCATION
Supply List

Advanced Typewriting/Word Processing

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	2	
Diskettes		2:1
Printer paper tray	1 per printer	
Software programs (See course guide for specifics)		
Time clock/cards	1	
Stop watch	1	
Copy holder		1:1
Tapes for transcribers	1 set per transcriber	
Bulk eraser	1	
Consumable items such as practice sets, simulations, typewriter ribbons, correction tape, and computer paper and ribbons must be available for each student.		
Approximately $16 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Business Communications

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Electronic typewriter		1:2
and		
Microcomputer (256K, two disk drives)		
and/or Word Processor		1:2
Printer with stand	1:4 micros	
Switch box	1:4 micros	
L-Shaped desk (40 x 48)	1 per typewriter	
Adjustable posture chair		1:1
Computer table (with adequate student workspace)	1 per micro	
File cabinet	1	
* Transcriber		1:4

*Optional

78

BUSINESS AND OFFICE EDUCATION
Supply List

Business Communications

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Software programs (See course guide for specifics)		
Diskette file	1	
Diskettes		1:1
Printer paper tray	1 per printer	
Consumable items such as workbooks, simulations, and computer paper and ribbons must be available for each student.		
Approximately $10 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Business Data Processing Occupations I & II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer (256K, two disk drives) and		1:2
Printer with stand	1:4 micros	
Switch box	1:4 micros	
Computer table (with adequate student workspace)	1 per micro	
Adjustable posture chair		1:1
*Bookshelf with magazine rack	1	
Work table	4	
File cabinet	1	
Storage cabinet with lock	1	
Table-style desk		1:2

*Optional

BUSINESS AND OFFICE EDUCATION
Supply List

Business Data Processing Occupations I & II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	3	
Software programs (See course guide for specifics)		
Diskettes		2:1
Bulk eraser	1	
Printer paper tray	1 per printer	
Template		1:1
Compiler	1	
Consumable items such as computer paper and ribbons must be available for each student.		
Approximately $13 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Business Law

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Table-style desk		1:1
Adjustable posture chair		1:1
* Work table	1	
* Bookshelf with magazine rack	1	
File cabinet	1	

*Optional

BUSINESS AND OFFICE EDUCATION
Supplies List

Business Law

No Supplies

BUSINESS AND OFFICE EDUCATION
Equipment List

Business Management

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer (256K, two disk drives)	1	
Printer with stand	1	
Table-style desk		1:1
Adjustable posture chair		1:1
Computer table (with adequate student workspace)	1	
Work table	1	
Bookshelf with magazine rack	1	
File cabinet	1	

BUSINESS AND OFFICE EDUCATION
Supply List

Business Management

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Software programs (See course guide for specifics)		
Diskette file	1	
Diskette (as needed)		
Printer paper tray	1 per printer	
Consumable items such as practice sets, workbooks, simulations, and computer paper and ribbons must be available for each student.		
Approximately $10 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Business Math

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Desk-style calculator		1:4
Table-style desk		1:1
Adjustable posture chair		1:1
File cabinet		
* Microcomputer (256K, two disk drives)	4	
* Printer with stand	1	
* Switch box	1	
* Computer table (with adequate student workspace)	4	

84

*Optional

BUSINESS AND OFFICE EDUCATION
Supply List

Business Math

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
* Diskette file	1	
* Software programs (See course guide for specifics)		1:1
* Diskette	1	
* Printer paper tray	1	
Consumable items such as working papers, simulations, calculator tape and ribbons must be available for each student.		
Approximately $7 per student is needed.		

*Optional

BUSINESS AND OFFICE EDUCATION
Equipment List

Computer Applications I & II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer (512K, two disk drives)		1:1
* Microcomputer (640K) with hard-disk drive and network system	1	
Printer with stand	1:4 micros	
Switch box	1:4 micros	
Computer table (with adequate student workspace)	1 per micro	
Work table	1	
Adjustable posture chair		1:1
* Bookshelf with magazine rack	1	
File cabinet	1	
Storage cabinet with lock	1	
* Modem and Telephone Line	1	
* Laser Printer	1	
* Scanner	1	

*Optional

BUSINESS AND OFFICE EDUCATION
Supply List

Computer Applications I & II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	3	
Software programs (See course guide for specifics)		
Diskette		2:1
Bulk eraser	1	
Printer paper tray	1 per printer	
* Subscription to "On-Line Service"	1	
Consumable items such as practice sets, simulations, computer paper and ribbons must be available for each student.		
Approximately $25 per student is needed.		

87

*Optional

BUSINESS AND OFFICE EDUCATION
Equipment List

Computerized Accounting I & II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer (256K, two disk drives)		1:4
Printer with stand	1:4 micros	
Switch box	1:4 micros	
Desk-style calculator		1:2
Computer table (with adequate student workspace)	1 per micro	
Table-style desk		1:1
Adjustable posture chair		1:1
File cabinet	1	
Work table	1	

BUSINESS AND OFFICE EDUCATION
Supply List

Computerized Accounting I & II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	1	
Diskette		1:1
Printer paper tray	1 per printer	
Software programs (See course guide for specifics)		
Consumable items such as working papers, simulations, calculator tape and ribbons, and computer paper and ribbons must be available for each student.		
Approximately $16 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Introduction to Computers

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer (256K, two disk drives)		1:2
Printer with stand	1:4 micros	
Switch box	1:4 micros	
Computer table (with adequate student workspace)	1 per micro	
Adjustable posture chair		1:1
Table-style desk		1:2
Work table	1	
* Bookshelf with magazine rack	1	
File cabinet	1	

90

*Optional

BUSINESS AND OFFICE EDUCATION
Supply List

Introduction to Computers

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	2	
Software programs (See course guide for specifics)		
Diskette		1:1
Bulk eraser	1	
Printer paper tray	1 per printer	
Consumable items such as practice sets, simulations, computer paper and ribbons must be available for each student.		
Approximately $13 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Keyboarding/Typewriting

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Electronic typewriter		1:2
and		
Microcomputer (256K, two disk drives)		1:2
Printer with stand	1:4 micros	
Switch box	1:4 micros	
Computer table (with adequate student workspace)	1 per micro	
L-shaped desk (40 x 48)	1 per typewriter	
Adjustable posture chair		1:1
Work table	1	
File cabinet	1	
* Bookshelf with magazine rack	1	

92

*Optional

BUSINESS AND OFFICE EDUCATION
Supply List

Keyboarding/Typewriting

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	2	
Diskette		2:1
Printer paper tray	1 per printer	
Software programs (See course guide for specifics)		
Stop watch	1	
Copy holder		1:1
Consumable items such as workbooks, practice sets, simulations, typewriter ribbons, correction tape, and computer paper and ribbons must be available for each student.		
Approximately $13 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Recordkeeping

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer (256K, two disk drives)	4	
Printer with stand	1	
Switch box	1	
Desk-style calculator		1:4
Computer table (with adequate student workspace)	1 per micro	
Table-style desk		1:1
Adjustable posture chair		1:1
File cabinet	1	

BUSINESS AND OFFICE EDUCATION
Supply List

Recordkeeping

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	1	
Diskette		1:1
Printer paper tray	1 per printer	
Software programs (See course guide for specifics)		
Consumable items such as working papers, simulations, calculator tape and ribbons, and computer paper and ribbons must be available for each student.		
Approximately $11 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Principles of Business

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer (256K, two disk drives)	1	
Printer with stand	1	
Computer table (with adequate student workspace)	1 per micro	
Table-style desk		1:1
Adjustable posture chair		1:1
Work table	1	
*Bookshelf with magazine rack	1	
File cabinet	1 file cabinet	

*Optional

BUSINESS AND OFFICE EDUCATION
Supply List

Principles of Business

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file Software programs (See course guide for specifics) Diskettes (as needed)	1	
Consumable items such as practice sets, workbooks, simulations, and and computer paper and ribbons must be available for each student.		
Approximately $10 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Shorthand I & II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Electronic typewriter		1:2
and		
Microcomputer (256K, two disk drives)		1:2
Printer with stand	1:4 micros	
Switch box	1:4 micros	
Computer table (with adequate student workspace)	1 per micro	
L-shaped desk (40 x 48)	1 per type-writer	
Adjustable posture chair		1:1
Dictating/Transcribing machine		1:4
Work table	1	
File cabinet	1	

BUSINESS AND OFFICE EDUCATION
Supply List

Shorthand I & II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	1	
Diskette		1:1
Printer paper tray	1 per printer	
Software programs (See course guide for specifics)		
Stop watch	1	
Copy holder		1:1
Dictation tapes		
Tapes for transcribers		
Bulk eraser	1	
Consumable items such as workbooks, keys, typewriter ribbons, correction tape, and printer paper and ribbons must be available for each student.		
Approximately $11 per student is needed.		

BUSINESS AND OFFICE EDUCATION
Equipment List

Small Business/Entrepreneurship

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer (256K, two disk drives)	1	
Computer table (with adequate student workspace)	1	
Table-style desk		1:1
Adjustable posture chair		1:1
Work table	1	
Printer with stand	1	
Bookshelf with magazine rack	1	
File cabinet	1	

BUSINESS AND OFFICE EDUCATION
Supply List

Small Business/Entrepreneurship

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diskette file	1	
Software programs (See course guide for list)		
Diskettes (as needed)		1:1
Printer paper tray	1	
Consumable items such as practice sets, workbooks, simulations, and computer paper and ribbons must be available for each student.		
Approximately $10 per student is needed.		

CAREER EXPLORATION

The structure of the program and the time spans in which the program is offered vary among LEAs. The supplies and equipment needed will be determined by the specific units taught.

Consumable. Since there are variations in the program, the figures provided at the end of the supplies listing for each laboratory are estimates. There will be differences in the amounts needed for each laboratory in programs which offer labs for varying lengths of time.

Reference Materials. Suggested reference needs are listed for specific activities in each laboratory curriculum guide, but the list below may be used as an overall guide.

Optional Equipment. Optional items are noted by an asterisk (*). While not required, these items are recommended for comprehensive programs.

Each laboratory area should have the following:

Dictionary of Occupational Titles - 1
Guide to Occupational Exploration - 1
Encyclopedia of Careers - 1
Occupational Outlook Handbook - 5
Career World Magazine - 4
A class-size set of textbooks
Worker Traits Group Guide - 5

Programs should integrate guidance activities and these materials into each laboratory offered.

AV Equipment

Each laboratory should have available for use:

Filmstrip projector
16 mm projector
Slide projector
Overhead projector
Cassette player
Listening center
Filmstrip viewer (individual)
Video cassette player
TV monitor
Video camera
Duplicator
Thermofax
Large wall-mount screen
Copier

Many schools are able to provide these through their media centers; thus, they would not need to purchase this equipment.

Each couse in the career exploration program will require the following for effective implementation:

1) Tables with chairs (adequate for enrollment)
2) Enclosed compartmentalized storage (e.g. tote tray cabinet)
3) File cabinets (2)
4) Bookcase(s)
5) Chalkboard
6) Bulletin board
7) Listening center
8) Supplemental electrical outlet strips
9) Accessible running water and sink
10) Adequate ventilation
11) Fire extinguisher
12) Pest control
13) Teacher desk with rolling chair
14) Pencil sharpener

CAREER EXPLORATION
Equipment List

Career Exploration (6th Grade Program)

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cassette recorder/player	1	
Listening center	1	
Filmstrip viewer (individual)	1	
Paper cutter	1	
Printer for above, (132 character)	1	
Calculators	1	
Calculators	4	
*Cash register (electronic)	1	
Telephone	1	
Microscope	1	
Wood-top work bench	1	
Woodworking vise	1	
Metalworking vise	1	
Robotics kit	1	
Stud wall section	1	
Serving tray	1	
Set dental tools	1	
Tooth model	1	

CAREER EXPLORATION
Supply List

Career Exploration (6th Grade Program)

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Scissors	12	
Assorted PVC pipe and fittings	Asstd.	
Claw hammers	2	
Hand saws	2	
Fingerprint kit	1	
$2 to $5 per student for consumable goods, such as worksheets, inventories, construction paper, art supplies, food, etc.		

CAREER EXPLORATION
Equipment List

Exploring Business Careers

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer with printer (at least 64K)	1	
* Electronic programmable cash register	1	
* Scanning wand (for computer and cash drawer)	1	
10 Key electronic calculator		1:4
Electric typewriter		1:4
* Duplicator	1	
Cassette recorder/player		1:4
* Dictating equipment	1	
* Camera - SLR	1	
* Camera tripod	1	
* Enlarger	1	
* Film processor and print maker	1	
* Sign making machine	1	
* Silkscreen equipment	1	
* Block print press/accessories	1	
* Mannequin	1	
* Check writer	1	
* Scales - postage/grocery	1	
* Credit card imprinter	1	
* Display heads	2	
* Hand-held price marker	1	
* Tagging gun	1	
* Telephones (training)	4	
Paper cutter	1	

*Optional

CAREER EXPLORATION
Supply List

Exploring Business Careers

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Calculators (pocket)	4	
Scissors	12	
Approximately $1 – $5 per student is needed to purchase consumable items such as ribbons for machines, paper, art supplies, blank cassette tapes, etc.		

CAREER EXPLORATION
Equipment List

Exploring Environmental Careers

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer with printer (at least 64K)	1	
Microscope	1	
* Greenhouse, indoor, miniature	1	
* Soil sterilizer	1	
*Wheelbarrow	1	
*Hydroponic kit	1	
* 1½ gallon capacity sprayer	1	
* Acquarium	1	
Horticulture hand tools (weeder, fork, rake, etc.) set	1	
* Tree-marking gun	1	
* Increment borer (for trees)	1	
* Insect exhibit case	1	
* Glass observation hive	1	
* Terrarium (gallon jugs may be used)	1	
* Tin tub (for worm rearing)	1	
* Weighing scales	1	
Screwdrivers, Phillips (Set of 3)	1	
Screwdrivers, regular (Set of 3)	1	
First-aid emergency kit	1	
Fire extinguisher - large	1	
Pipe wrench set	1	
Open end wrenches (Set)	1	
Allen wrench set	1	
Transparent hen demonstration incubator	1	
Egg scales	1	
Egg candler	1	
Egg grader	1	
* Poultry brooder (small)	1	
Soil sieves (set)	1	
* Capillary soil water demonstration set	1	
* Folding land measuring wheel	1	
100-foot steel tape	1	
Auger (soil)	1	

107

*Optional

CAREER EXPLORATION
Supply List

Exploring Environmental Careers

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Steel square	1	
Hoes	2	
Garden rakes	2	
Mattock	1	
Shovels	2	
Leaf rakes	2	
*Long blade transplanting spade	1	
*Lopping shears	1	
*Hedge shears	1	
*Pole pruners	1	
*Log rule	1	
*Log caliper	1	
*Log scale stick	1	
*Tree identification replica (set)	1	
Water testing sets	1	
Angle spout oiler	1	
Magnetic compass	1	
Soil auger	1	
Soil testing kit	1	
*Soil sampling spade	1	
*Land measuring compass	1	
Buckets (qt.) 10⅛" Dia.	4	
Scissors	12	
Needed supplies will vary according to units covered.		
Approximately $1 – $5 per student is needed to purchase consumable items such as seeds, potting soil, aquariam supplies, eggs, etc.		

*Optional

CAREER EXPLORATION
Equipment List

Exploring Industrial Careers

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microcomputer with printer (64K)	1	
Jig saw, vibrating	1	
Electric drill	1	
Saber saw	1	
* Oribital sanders	2	
Drill press	1	
* Grinder	1	
* Morgan sign machine	1	
* Small platen press outfit	1	
* Proof press	1	
* Vacuum-forming equipment	1	
* Silkscreen equipment	1	
* Pilot press	1	
* Galleys	5	
* Block printing press/assessories	1	
Adjustable wrench sets	2	
*Wood burning kit	1	
Router	1	
Vaccuum cleaner – unless exhaust system built into classroom.	1	
* Small engine – does not have to work	1	
10″ Hand braces	2	
* Wood chisel sets 1/4″ – 1″	2	
Assorted size auger bits set (6 pcs.)	2	
* Set taps and dies	1	
* Mortar box	1	
24″ Spirit levels	1	
Buckets (qt.) 10-1/8″ diameter	2	
*Conduit benders	2	
* Wheelbarrow	1	
* Pop rivet guns	2	
* Armored cable cutters	2	
Screwdriver set (Phillips)	1	
Screwdriver set (standard)	1	
13 Piece socket set 3/8″ to 3/4″	1	
Set combination wrenches 1/4″ to 1-1/16″	1	
* Small motor tool panel of assorted tools	1	
Set Allen wrenches	1	
* Compression tester	1	
Complete set metric wrenches	1	
Scissors	12	

109

* Optional

CAREER EXPLORATION
Supply List

Exploring Industrial Careers

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Folding rules (6″)	2	
8″ Surform planes	2	
Drill (twist) bit set 1/16″ – 7/8″	1	
* Mortar hoe	1	
Aig guage	1	
Drawing boards 20″ x 24″	3	
Drawing instrument sets	3	
Hand saw	1	
Hammer	4	
Safety goggles	12	
* Ultraviolet safety goggles cabinet	1	
* Aprons	6	
Scissors	12	
Approximately $1 – $10 per student is needed to purchase consumable items such as lumber, paints, sandpaper, nails, silkscreen paints and supples, etc.		

CAREER EXPLORATION
Equipment List

Exploring Service Careers

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Range, electric or gas, or portable hot plate	1	
* Automatic washer	1	
* Electric dryer	1	
Refrigerator/freezer	1	
* Hospital bed	1	
* Diswasher	1	
* Microwave oven	1	
Sewing machine	1	
* Electric mixer	1	
* Food processor	1	
Microscope	1	
* Blender	1	
* Mixer – hand	1	
Can opener	1	
* Automatic coffeemaker	1	
* Fry pan (skillet)	1	
* Toaster	1	
* Waffle baker/grill	1	
* Buffet range (hot plate)	1	
Fry pan or skillet (3 pc. set)	1	
Saucepan set (1, 1½, 2 qt. & double boiler)	1	
Cookie sheets (3 pc. set)	1	
Square pan (8″ x 8″) set (3 pc.)	1	
Cutlery set (6 pc. set)	1	
Paring knives set (3 pc. set)	1	
Canister set (4 pcs.)	1	
Dinnerware set (45)	1	
Flatware set (50 pcs.)	1	
Glassware set (24 pcs.)	1	
Punch bowl, ladle, & cups (40 pc. set)	1	
* Salad bowl set (9 pcs.)	1	
* Round cake pan set (3 pcs.)	1	
Mixing bowl set (3 pcs.)	1	
Hair dryer	1	
Scissors	12	
Steam iron	1	
* Hair setter set (electric)	1	
* Screen, folding	1	
* Table, overbed	1	
* Nightstand	1	

111

*Optional

CAREER EXPLORATION
Equipment List

Exploring Service Careers – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Stethoscope	1	
First-aid kit	1	
* Scales, health meter	1	
* Blood pressure cuff	1	
* Vacuum cleaner	1	
* Mannequin	1	
Shears	4	

*Optional

CAREER EXPLORATION
Supply List

Exploring Service Careers

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cookie press	1	
Colander	1	
* Sandwich tray	1	
* Oval serving tray	1	
* Wig stands	2	
* Rollers and hair clips (10 pcs.)	1	
* Styling comb (curling wand)	1	
Ironing board	1	
Serving trays	4	
* Wigs	4	
Approximately $1 – $10 per student is needed to purchase consumables such as food, art supplies, needles and thread, etc.		

*Optional

HEALTH OCCUPATIONS EDUCATION

The equipment and supplies listing represents the very minimum of such items needed to implement a Health Occupations Education Program. It is important to remember that students must be proficient in the identified core competencies before experiencing clinical internships in health agencies. Without the appropriate equipment and supplies, teaching/learning activities are seriously hampered. Moreover, the value of maintaining equipment in fully operational condition at all times is critical to the instructional process.

Essential to the teaching/learning process are appropriate and adequate quantities of instructional materials. These are identified in each of the curriculum guides. Current editions of commercial materials are important to teaching the latest related concepts and principles. Computer software that embraces the social sciences, natural sciences, and the humanities are also needed.

The following list is designed to assist both administrators and teachers in planning, procuring, and budgeting for the Health Occupations Education Progam. Because teaching methodologies vary with each teacher, specific needs may not be identified. Consideration should be given to these uniquenesses when making program purchases. It is wise for the teacher to justify order of items based on the core competencies as found in the *Health Occupations Education Competency/Test-Item Bank* and each curriculum guide. Individualized instruction may not require the same amount/number of items as compared to traditional instructional methodologies.

Both administrators and teachers are encouraged to review the *Secondary Health Occupations Education Guide for Program Planning and Management.* The contents include a complete listing of supplies and equipment as well as a classroom/laboratory layout/design.

Optional equipment and supplies are denoted by an asterisk.

HEALTH OCCUPATIONS EDUCATION
Equipment List

Introduction to Health Occupations Education
Health Occupations Education I and II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Bookshelves	1	
Six-Button Telephone	1	
Rotary Call Directory	1	
Typewriter	1	
* Camera	1	
Patient Chart Rack	1	
Patient Chart Holder		1:1
Calculator with Tape	1	
Library Carrel for Learning Center		1:6
* Desk/Floor Podium	1	
Dictation/Transcriber unit	1	
Microcomputer: 64K, 2 Disk Drives	1	
* Electronic Cash Register	1	
* Collator	1	
Wall Clock with Second Hand	1	
I. V. Stand	1	
Adjustable Footboards		1:9
Rectal Speculums		1:9
Protoscopes		1:9
Sigmoidoscopes		1:9
Stainless Steel, Wastecans (Step on, flip top)		1:2
* Washing Machine	1	
* Clothes Dryer	1	
Monocular Microscope with Light		1:2
Binocular Microscope with Light		1:2
Console Bedside Unit		1:9
Hospital Bed - Electric	1	
Hospital Bed - Manual	1	
Full Length Stainless Steel Bed Rails		1:9
Short Length Stainless Steel Bed Rails		1:9
Overbed Table		1:9
Bedside Table		1:9
Footstools - Stainless Steel		1:9
Bedside Chair		1:9
* Refrigerator	1	
* Electric Stove	1	
Digital Pulsimeter	1	
Compact Portable Scale Chair	1	
Adult Digital Scale	1	

115

*Optional

HEALTH OCCUPATIONS EDUCATION
Equipment List

Introduction to Health Occupations Education
Health Occupations Education I and II – *Continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Infantometer	1	
Sterilizer (Wet)	1	
Sterilizer (Dry)	1	
Instrument Cabinet	1	
Surgical Sinks (with knee controls, extended faucet handles, attached soap dispenser)	1	
Infant Scales	1	
Scales with Height Rod		1:9
Electronic Digital Thermometer		1:2
Electronic Digital Sphygmomanometer		1:2
Aneroid Sphygmomanometer		1:2
Stethoscope (Disc Shape)		1:2
Medical Examination Table, Console with Stirrups	1	
Opthalmascope with Otoscope Attachment		1:2
Stretcher with Safety Belts and Wheel Locks	1	
Wheelchair	1	
Electronic Hydraulic Lift	1	
Dental Chair	1	
Stethoscope (Teaching - Double Outlet)		1:9
Adult Skeleton/Muscular Model - Fully Articulated with Stand	1	
Dental Skull	1	
Adult Resuscitation Training Model	1	
Adult Circulatory System	1	
Adult Heart	1	
Adult Urinary System	1	
Adult Kidney	1	
Female Pelvic Organs	1	
Male Pelvic Organs	1	
Fetal Circulation Model	1	
Head and Brain Model	1	
Digestive System	1	
Skin Model	1	
Vertebral Column with Nerve Roots Model on Stand	1	
Foot Model	1	
Stomach Model	1	
Pancreas Model	1	

HEALTH OCCUPATIONS EDUCATION
Equipment List

Introduction to Health Occupations Education
Health Occupations Education I and II – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Liver Model	1	
Respiratory Organs Model	1	
Larynx Model	1	
Hospital Training Doll with Ostomy Set – Resusitation Adaption	1	
Eye Model	1	
Heimlich Maneuver Model	1	
Centrifuge (Laboratory Model)	1	
Hemato Centrifuge	1	
* Stainless Steel Stools (Adjustable, padded seats, rollers)		1:4
Wall and Bar Units (Medical Laboratory and Receptionist Areas)		1:9

117

*Optional

HEALTH OCCUPATIONS EDUCATION
Supply List

Introduction to Health Occupations Education
Health Occupations Education I and II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Vaginal Speculums		1:9
Uterine Dressing Foreceps		1:2
Transfer Forceps Stainless Steel Containers		1:2
Transfer Forceps Stainless		1:2
Apothecary Jars (Glass with Stainless Steel Lids) 1 – set	1	
Paper Towel Wall Dispenser, Stainless Steel		1:6
Stainless Steel Instrument Trays		1:2
Stainless Steel Kelly Clamps		1:2
Stainless Steel Hemostat Clamps		1:2
Stainless Steel Suture Clamps		1:2
Stainless Steel Sponge Bowls		1:2
Stainless Steel Towel Clips		1:2
Stainless Steel Percussion Hammer		1:2
Gooseneck Lamp		1:9
Stainless Steel Kick Buckets with Rollers		1:9
Stainless Steel Mayo Instrument Stand		1:9
Stainless Steel Bandage Scissors		1:1
Stainless Steel Pickup Forceps		1:2
Stainless Steel Pickup Forcep Jars		1:9
Plastic Coated Mattress		1:9
Aluminum Linen Hamper Frame		1:9
Folding Screen – Portable with Coasters		1:6
Bedside Lamp		1:9
Electric Bell/Buzzer		1:9
Bassinet Frame and Carrier		1:9
Stainless Steel Emesis Basin		1:1
Stainless Steel Bedpan – Adult		1:2
Stainless Steel Bedpan – Pediatric		1:9
Stainless Steel Male Urinal		1:9
Stainless Steel Water Pitcher		1:9
Stainless Steel Bath Basin		1:1
Visual Acuity Chart (Electric)		1:9
Nasal Speculum (Stainless Steel)		1:2
Stretcher Pad (Plastic Coated)	1	

113

HEALTH OCCUPATIONS EDUCATION
Supply List

Introduction to Health Occupations Education
Health Occupations Education I and II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Microslide Viewer		1:1
Microslide Viewer Storage Case		1:1
Crutches (Almunimum with Rubber Tips)		1:9
Cane Crutches (Aluminum with Rubber Tips		1:9
Walker (Aluminum with Rubber Tips)		1:9
Leg Braces (Aluminum)	1	
Head Immobilizer		1:2
Tray – 12⅞" x 10¾" (Stainless Steel)		1:2
Tray 8" x 4" (Stainless Steel)		1:2
Newborn Baby Doll with Reservoirs	1	
Enema Simulator Model	1	
Catherization Model (1 male – 1 female)	1	
Soap Dispenser (Wall)		1:9
Stainless Steel Cookware (set)	1	
CONSUMABLE SUPPLIES		
Approximately $50 per student is needed to purchase consumable items such as assorted disposable gowns, gloves, masks, examination drapes, assorted medical/health record/requisition/accounting forms, glass thermometers, medical laboratory glassware, culture media, assorted linens, radio-graphic film (instructional), denture casts, assorted disposable diagnostic/treatment sets, assorted disinfectants, first aid supplies, assorted bandages/ dressings, hand/scrub brushes, rubber/plastic tubing, curtains/tracks, etc.		

110

HOME ECONOMICS EDUCATION

Consumer Home Economics

Consumer Home Economics courses are classified as comprehensive or specialized courses. The comprehensive courses are Exploring Home Economics, Independent Living, and Teen Living. A comprehensive course is one that includes all content areas in Home Economics Education. The equipment and supply lists for the comprehensive courses are divided into content units for ease in finding items. The dollar estimate for consumable supplies for a year long comprehensive course is $15 per student.

These courses are Clothing and Textiles, Foods and Nutrition, Interior Design and Housing, and Parenting and Child Development. These courses require the same equipment and supplies that are in the comprehensive course list plus additional equipment and supplies. For example, the specialized course listing repeats the basic comprehensive list of equipment and supplies and adds the additional needs for the specialized course. The dollar estimate for all specialized year long courses is $10 per student, except for Foods and Nutrition which is $40 per student per year.

Occupational Home Economics

The Occupational Home Economics equipment and supply lists are for school based programs. This list does not apply to cooperative education or intership operated programs. The dollar estimate for consumable supplies for each occupational program is $15 per student. These programs may be self-supporting, but a dollar amount is needed each year for start-up and maintenance. Production work activities and fees charged for Child Care Services provide additional resources to support these programs.

Optional equipment and supplies are denoted by an asterisk.

HOME ECONOMICS EDUCATION
Equipment List

Child Care Services I and II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Balance Board-Standard	1	
Book Case	1	
Climb Slide Set-Indoor	1	
Climbing Equipment-Wooden; simple-outdoor	1 set	
Fire Extinguisher	1	
Mirror-Full length; wall mount	1	
Refrigerator	1	
Shelving Open-For storage of play equipment	1	
Storage Locker, individual cubby		1:1
Swing Set-Outdoor	1	
Table and chairs for children		1:1
Water Fountain	1	
* Dryer	1	
* High Chair	1	
* Microcomputer, 364K	1	
* Printer	1	
* Rocking Chair	1	
* Room Divider-On coasters; w/peg bulletin board sides, 4 x 8	2	
* Sound Monitor System for observation room	1	
* Washer	1	
* If meals are prepared on site, the following equipment is needed:		
* Dishwasher	1	
* Microwave Oven-w/cart	1	
* Range	1	

121

*Optional

HOME ECONOMICS EDUCATION
Supply List

Child Care Services I and II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Block-Building Accessories-vehicles, animals, human figures, fences	2 types	
Books-age appropriate		1:1
Cart-Utility; 3 shelf, mobile	1	
Clock-Wall; large; w/arabic numbers	1	
Cots-Child-sized, aluminum, stacking w/covers		1:1
Doll Bed	1	
Doll House-w/furniture	1 set	
Dolls and Doll Clothes	2	
Easel-2 sides	1	
First Aid Kit-equiped	1	
Housekeeping Accessories-pots, pans, utensils, dishes	1 set	
Manipulative items-puzzles, games, beads		1:2
Refrigerator-Child sized play	1	
Riding Toys-Heavy duty wooden or metal	4	
Sand and Water Table-w/cover for indoor use	1	
Sink-Child sized play	1	
Stove-Child sized play	1	
Table and Four Chairs-Child sized	1	
Tone Bells-w/2 mallets	1	
* Dolls Carriage	1	
* Wagon-Heavy duty-wooden or metal	1	
* Wheel Barrow-Heavy duty	1	

122

*Optional

HOME ECONOMICS EDUCATION
Supply List

Child Care Services I and II – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
* If meals are prepared on site, the following supplies are needed:		
Bake and Roast Pan-Metal	1 set	
Baking Dish-Pyrex 3 qt.	2	
Blender-Electric	1	
Bowls-Mixing; assorted sizes	2 sets	
Can Opener-Electric	1	
Casserole-Glass	4	
Cookie Sheet-Teflon coated	4	
Cutlery Set	1	
Cutting Board-Acrylic	2	
Food Processor-w/assorted blades and discs	1	
Loaf Pan-9 x 5 x 3	2	
Meal Service-Dinnerware, Glassware, Flatware		1:1
Muffin Pan-12 section, teflon coated	3	
Pots and Pans	1 set	
Pitchers, 2 quart Acrylic	3	
Sauce Pan-w/covers; assorted; 2 qt. & 3 qt., 6 qt.	5	
Serving Trays-Assorted sizes	4	
Skillet-w/cover; 10"; teflon coated	2	
Stockpot, Heavy duty; w/cover; 8 quart	1	
Trash Can-Large, Heavy duty, w/lid, 30 gal capacity	1	
Miscellaneous supplies: Measuring cups and utensils, spatulas, tongs, wooden spoons, turners, cooling racks, pastry blenders, vegetable peelers, rolling pin, wire whips, cookie cutters, kitchen shears.		
Approximately $15 per student per year is needed to purchase consumable items such as resource books, computer software, instructional supplies and groceries.		

123

*Optional

HOME ECONOMICS EDUCATION
Equipment List

Clothing and Textiles

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cabinets – Storage for garments, ironing boards, and general supplies	1	
Cabinets – Storage for tote trays	1	
Mirror – Triple, full length	1	
Sewing Machine – Domestic		1:2
Table – Multipurpose for cutting and student work	4	
* Washer	1	
* Dryer	1	
* Serger	1	

*Optional

HOME ECONOMICS EDUCATION
Supply List

Clothing and Textiles

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Iron	3	
Ironing Board	3	
Hem Marker	1	
Needle Board	1	
Point Presser & Pounding Block	1	
Pressing Ham	1	
Sleeve Board	1	
Sleeves Roll	1	
Shears – 6-7″ Bent trimmers; righthanded		1:2
– 6-7″ Bent trimmers; lefthanded		1:2
– Pinking; righthanded	1	
– Pinking; lefthanded	1	
Tote trays		1:1
* Drawing Boards and Supplies		1:2
* Vacuum Cleaner – Hand-held, rechargeable	1	
Approximate $10 per student per year is needed to purchase consumable items such as bobbins, tape measures, seam gauges, markers, tracing wheels, needles, fabric for demonstration, thread, and demonstration patterns.		

125

*Optional

HOME ECONOMICS EDUCATION
Equipment List

Commercial Foods I and II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Blender Electric	1	
Braising Pan-Small tilting	1	
Broiler-18"-30" Infrared broiler	1	
Cash Register-Standard	1	
Chafing Pans/Stands/Covers	4	
Chairs-Side stacking		1:1
Coffee Maker-2 Pot/2 Built-in warmers; automatic 1700-Watts	1	
Counter Sandwich Unit-Self contained; 6 cu. ft. capacity	1	
Dryer-Clothes, small commercial	1	
Equipment Stand-Stainless steel; 24 x 8 x 24	1	
Exhaust System-w/automatic fire extinguisher	1	
Food Processor-Commercial multi-function; s/std. accessories	2	
Freezer-25 cu. ft.; reach-in; stainless steel front	1	
Fry Kettle-15 lb. capacity	1	
Garbage Disposal-Commercial	1	
Grill-24 x 24 x 25; two thermostats	1	
Hot Food Server-Electric; portable w/sneeze guard	1	
Ice Machine-40 lb. bin; 1/2 HP; 39 x 24	1	
Milk Shake Machine-Single spindle; automatic	1	
Mixer-Bench model-5 qt.; heavy duty	2	
-10 qt.; heavy duty	1	
Oven-Convection-w/stand 36 x 36	1	
Oven-Microwave-Commercial; heavy duty	1	
Proofing Cabinet	1	
Range-Commercial	2	
Refrigerator-47 cu. ft.; two doors	1	
Salad Bar-On casters; w/sneeze guard; center drain; fiberglass reinforced plastic well	1	
Scale-Bakers dough; 8 lb. capacity	1	
Sink-Handwashing; single bowl	1	
Sink, Stainless Steel, 2 or 3 compartments	1	
Storage Units:		
Dish Storage; flat shelving, 4 shelves high 12" to 15" wide and 6' long	1	
Pot and Pan Storage; flat shelving, 5 shelves high; 27" wide and 60" long	1	
Food Storage Bins-floor model on casters	4	
Table and Chairs-Square; seating for four or round seating for 4-6		1:4
Toaster-2 slice; electric	1	
Washer-Clothes, small commercial	1	
Work Table-Stainless		1:4

HOME ECONOMICS EDUCATION
Equipment List

Commercial Foods I and II – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
* Adding Machine	1	
* Buffalo Cutter (not to be used by student under 18)	1	
* Camera	1	
* Diswasher-Commercial, complete with pre-rinse and dish racks	1	
* Microcomputer, 364K, 2 Disk Drives	1	
* Mixer-Floor model; 20 qt.	1	
* Soft Drink Machine	1	
* Steamer	1	
* Vacuum Cleaner	1	

127

*Optional

HOME ECONOMICS EDUCATION
Supply List

Commercial Foods I and II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Blender-Pastry-5 blade	3	
Bowl-Salad-Glass	2	
Bowl-Mixing-Stainless steel; 3 nesting	2	
-Stainless steel; 8 qt. 13: diameter	10	
Bowl-Punch	2	
Bowls-Serving-Vegetable	6	
Broom-Commercial	2	
Bus Box	1	
Calculator	2	
Can Opener-Table mount; up to one gallon	1	
Cart-Utility	2	
Coffee Decanter	6	
Colander-3 qt.; aluminum	3	
-11 qt.; aluminum	1	
Cookie Press	2	
Cookie Sheet-Polished aluminum; 15½ x 12 x 12	4	
Cups-Punch	60	
Dinnerware-Casserole; individual	60	
-Creamer; glass or stainless steel	8	
-Cups – Saucers	60 each	
-Dessert Plates	60	
-Plates; 9″	60	
-Platter, large	4	
-Platter, small	4	
-Salad Plates	60	
-Sugar; w/cover	8	
Double Boiler-Standard weight; w/flat bottom		
insert-8 qt. inside; 9 qt. outside	1	
-5 qt. inside; 8 qt. outside	1	
Flatware-Stainless Steel		
-Cold Meat Fork	2	
-Fork, Dinner, Salad	60 each	
-Knife	60	
-Ladle & Sugar Spoon	8 each	
-Pickle Fork	6	
-Serving Spoon; Solid/pierced bowl	12	
-Spoon, Teaspoon, Ice Tea, Soup	60 each	
Fire Extinguishers	2	
First Aid Kit	1	

120

HOME ECONOMICS EDUCATION
Supply List

Commercial Foods I and II – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Food Chopper/grinder-Table top; hand-operate; stainless steel w/5 cones	1	
Food Mill	1	
Glassware-Iced Beverage	60	
-Juice	60	
-Parfait	60	
-Sherbert	60	
-Water	60	
Knives	1 set	
Laddle-Punch Bowl	2	
Linens-Napkins, Placements	60 each	
Linens-Tablecloth	8	
Malted Milk Cup-6 7/8 x 4; stainless	3	
Measure-1 qt.; stainless steel	4	
Menu Board	1	
Microwave Cookware-Assorted set	1 set	
Mixer-Portable, hand, electric	1	
Mold-Individual, aluminum	60	
Molds-Large	2	
Mop Wagon-Wringer bucket	1	
Mops	2	
Pan-Angel/Pound; removable bottom	6	
-Baking; heavy gauge aluminum; 11 x 20 x 2½	4	
-Bread-Aluminum; 9¼ x 5¼ x 2¾	12	
-Bread or Dough-Stainless steel bread	2	
-Bun-Heavy Duty; 18 x 26 x 1	6	
-Cake; square 8 x 8 x 2	6	
-Cake; square 9 x 9 x 1¾	6	
-Cake 9 x 13 x 2	4	
-Crepe	1	
-Fry-French style; 9½" top diameter	2	
-French style; 11" top diameter	2	
-Heavy duty; w/lid-8", 10", 12"	1 each	
-Jelly Roll; 15½ x 10½ x 1	3	
-Loaf Bread; 11 x 4½ x 2¾ and 6 x 3 x 3	6	
-Muffin/cupcake; 12 cups; 24 cups	4	
-Pie 9" round	12	
-Quiche	4	
-Roast/bake w/cover	2	
-Round 9"	12	

129

HOME ECONOMICS EDUCATION
Supply List

Commercial Foods I and II – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
-Sauce-Heavy duty aluminum; 1 qt.	4	
2 1/2 qt. w/lid	4	
4 1/2 qt. w/lid	4	
-Saute'; 6"	3	
8"	3	
12"	3	
-Sheet 18 x 26 x 2¼	12	
-Sheet-Half size; aluminum; 17¾ x 12 x ⅞ x 1	15	
-Spring Form 9 x 3	4	
Pitcher-Water-Acrylic; 2 qt.	6	
Salt/Pepper Sets-3 oz. capacity; stainless steel tops	8	
Sifter-2 lb.	3	
-5 cup	1	
Steamer/Cooker-Aluminum 2 qt. inset & 6 qt. outside pan	1	
Stockpot-Heavy duty; w/cover; 8 qt.	3	
Timer-Minute; 2½ face	2	
Oven; standard	1	
Timing Clock-Wall mount	1	
Thermometers, Assorted	12	
Trash Cans-w/covers; 32 gal./on casters	4	
Tray-Punch Bowl	1	
Trays-Serving-Assorted sizes	6	
Tray Stand-Folding	6	
Utensil Rack-Hanging; stainless; 24 x 18 x 3	1	
Approximately $15 per student is needed to purchase consumable items such as pastry bags, spoons, kit, dough cutters, spatulas, skewers, and molds.		

130

HOME ECONOMICS EDUCATION
Equipment List

Custom Fashions and Interiors I and II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Blindstitch Machine – Commercial		1:2
Cabinet – Storage for tote trays	1	
Cabinet – w/drawers for small parts	1	
Ironing Board or Table – Commercial	2	
Iron – Commercial	2	
Lockstitch Machine – Commercial		1:2
Mirror – Triple Full Length	1	
Operator Chair or Stool		1:1
Overlock Machine – Commercial	2	
Sewing Machine – Domestic		1:3
Sink – Handwashing	1	
Table – Cutting, 4′ x 8′ Padded	1	
* Apparel Steamer	1	
* Buttonhole Machine – Commercial	1	
* Dryer	1	
* Fabric Roll Rack	1	
* Ironing Press	1	
* Monogrammer – Commercial	1	
* Staple Gun, Pneumatic	1	
* Washer	1	

131

*Optional

HOME ECONOMICS EDUCATION
Supply List

Custom Fashions and Interiors I and II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cabinet - Storage, portable w/see-through drawers	1	
Calculator or Adding Machine	2	
Dressmaker's Ham	2	
Drafting Tools - Assorted		1:2
Drapery Rods - Assorted types	1 each	
Drawing Boards		1:2
Drill - Electric	1	
Drill Bits - Wood Set for 1/4" drill	1	
- Masonry Set for 1/4" drill	1	
Glue Gun - Electric	1	
Hammer	2	
Hem Marker	1	
Iron	2	
Ironing Board	2	
Jig Saw	1	
Ladder - 5' wood or aluminum, med. duty	2	
Machine Tool Kit - Commercial Machine	1	
- Domestic Machine	1	
Needle Board	1	
Point Presser & Pounding Block - Wooden	1	
Screwdriver - Standard	2	
- Phillips Head	2	
- Power	1	
Seam Roll	2	
Shears - Straight trimmer 6'		1:1
- Pinking; righthanded	1	
- Pinking; lefthanded	1	
- Bent trimmers; righthanded 8"		1:1
- Bent trimmers; lefthanded 8"		1:1
Sleeve Board	1	
Staple Gun - Hand	2	
Steamer - Hand-held	2	
Tool Box	2	
Tote Trays		1:1
Window Units - Framed, double sash	1	
Wrench - Adjustable	1	
* Dress Form	2	
* Garment Rack	1	
Approximately $15 per student per year is needed to purchase consumable supplies such as needles, measures, dressmaker rulers, fabric marking pens, press cloths, and staples.		

*Optional

HOME ECONOMICS EDUCATION
Equipment List

Exploring Home Economics

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
CLOTHING AND TEXTILES UNIT		
Cabinets-Storage.	1	
Sewing Machines-Domestic		1:4
Table-Multipurpose	3	
* Serger	2	
CONSUMER EDUCATION UNIT		
* Microcomputer, 364K, 2 disk drives	1	
* Printer	1	
FOODS UNIT		
A kitchen is to be occupied by a maximum of four students.		
The following are need per kitchen:		
Ranges		1:4
Tables		1:4
The following are needed per classroom:		
Cart-Utility	1	
Demonstration Unit	1	
Dishwasher	1	
Dryer	1	
Microwave Oven	1	
Refrigerator; Frost Free w/Ice Maker	1	
Washer	1	
* Cart-Microwave	1	

133

*Optional

HOME ECONOMICS EDUCATION
Supply List

Exploring Home Economics

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
CLOTHING AND TEXTILES UNIT		
Iron	2	
Ironing Board	2	
Shears		
6-7" Bent trimmers; righthanded	10	
6-7" Bent trimmers; lefthanded	3	
Miscellaneous supplies: Markers, needles, fabric, thread, and bobbins.		
CONSUMER EDUCATION UNIT		
Calculator	1	
FOODS UNIT		
A kitchen is to be occupied by a maximum of four students. The following are needed per kitchen:		
Blender	1	
Bowl-Serving	2	
Bowl-Soup	8	
Bowls-Mixing, Set	1	
Can Opener-Electric	1	
Casserole	2	
Cookie Sheets	8	
Cups	1	
Cutlery Set	1	
Cutting Board, Acrylic	1	
Double Boilers	1	
Fire Extinguisher, Kitchen	1	
Flatware Set	1	
Food Processor-w/multi-use dish and blades	1	
Garbage Disposal	1	
Glasses	8	
Mixer-Portable	1	
Mixing Bowl Set	1	
Pans-Cake - 9"	3	
-13 x 9 x 2	1	
-Muffin	1	
-Tube	1	
Pan-Fry	1	
Pan-Fry-Electric	1	

HOME ECONOMICS EDUCATION
Supply List

Exploring Home Economics

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Pan-Pie	2	
Pan-Pizza	1	
Pan-Sauce - 1½ qt.	1	
- 2½ qt.	1	
- 4½ qt.	1	
Plates-Dessert	8	
Plates-Dinner	8	
Plates-Salad	8	
Platters	2	
Saucers	8	
Shears-Kitchen	1	
Storage Containers	4	
Thermometer-Oven	1	
Timer	1	
The following are needed per classroom:		
Bowl-Punch	1	
Broom	1	
Cookie Press	1	
Knife-Electric	1	
Ladle-Punch	1	
Microwave Cookware Set	1	
Mixer-Tabletop with heavy duty motor	1	
Pitchers	2	
Thermometer-Meat	1	
Toaster or toaster oven	1	
Trash can, heavy duty plastic	1	
Miscellaneous Supplies: Food, measuring cups and utensils, spatulas, tongs, wooden spoons, turners, cooling racks, pastry blenders, vegetable peelers, rolling pins, wire whips, cookie cutters, and table linens.		
For Comprehensive Courses the following is needed:		
Approximately $15 per student per year to purchase consumable items listed for units in clothing and textiles, foods and nutrition, management, personal development and family relationships, and consumer education.		

135

HOME ECONOMICS EDUCATION
Equipment List

Foods and Nutrition

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
The following are needed per kitchen unit:		
Fire Extinguishers-Kitchen		1:4
Ranges		1:4
Tables		1:4
The following are needed per classroom:		
Demonstration Unit w/Mirror	1	
Dishwasher	1	
Dryer	1	
Microwave Oven	1	
Mixer-Heavy Duty Motor, Tabletop	1	
Refrigerator Frost Free; 21 cu. ft. w/ice maker	1	
Utility Cart	1	
* Microwave Cart	1	

HOME ECONOMICS EDUCATION
Supply List

Foods and Nutrition

Supply Item	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
A kitchen is to be occupied by a maximum of four students.		
The following are needed per kitchen unit:		
Blender	1	
Bowl, Serving	2	
Bowl, Soup	8	
Casserole	2	
Cookie Sheets	2	
Cups	8	
Cutlery Set	1	
Cutting Board, Acrylic	1	
Double Boilers	1	
Flatware Set	1	
Fire extinguisher, kitchen	1	
Food Processor - w/multi-use dish and blades	1	
Glasses	8	
Mixer, Portable	1	
Mixer, Table-top, Heavy-duty motor	1	
Mixing Bowls Set	1	
Pan, Bread	2	
Pans, Cake - 9"	3	
- 13 x 9 x 2	1	
- Muffin	2	
- Tube	1	
- Angel/Pound	1	
- Jelly Roll	1	
- Spring Form	1	
Pan, Fry, Range	1	
Pan, Fry, Electric	1	
Pan, Pie	2	
Pan, Pizza	1	
Pan, Sauce 1½ qt., 2½ qt., 4½ qt.	1 each	
Pitcher	1	
Plates, Dessert	8	
Plates, Dinner	8	
Plates, Salad	8	
Platters	2	
Salad Bowl Set	1	
Saucers	8	
Scale Measurer	1	
Shears-Kitchen	1	

HOME ECONOMICS EDUCATION
Supply List

Foods and Nutrition – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Stock Pot	1	
Storage Conatiners	1	
Thermometer, Meat	1	
Thermometer, Oven	1	
Timer	1	
Toaster or Toaster Oven	1	
The following are needed per classroom:		
Bowl, Punch	1	
Broom	1	
Can Opener, Electric	1	
Coffee Maker	1	
Cookie Press	1	
Garbage Disposal	1	
Knife, Electric	1	
* Ice Cream Freezer	1	
Ladle, Punch	1	
Microwave Cookware Set	1	
Pan, Pressure Sauce	1	
Trash Can, Heavy Duty Plastic	1	
* Wok	1	
Approximately $40 per student, per year, is needed to purchase consumable items such as food, cookbooks, dish cloths, and paper products.		

130

*Optional

HOME ECONOMICS EDUCATION
Equipment List

Home Economics Cooperative Education I and II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
None		

139

HOME ECONOMICS EDUCATION
Supply List

Home Economics Cooperative Education I and II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Approximately $15 per student per year is needed to purchase consumable supplies related to the students' career objectives.		

HOME ECONOMICS EDUCATION
Equipment List

Independent Living

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
CLOTHING AND TEXTILES UNIT		
Cabinets-Storage.	1	
Sewing Machines-Domestic		1:4
Table-Multipurpose	3	
* Serger	2	
CONSUMER EDUCATION UNIT		
* Microcomputer, 364K, 2 disk drives	1	
* Printer	1	
FOODS UNIT		
A kitchen is to be occupied by a maximum of four students. The following are need per kitchen:		
Ranges		1:4
Tables		1:4
The following are needed per classroom:		
Cart-Utility	1	
Demonstration Unit	1	
Dishwasher	1	
Dryer	1	
Microwave Oven	1	
Refrigerator; Frost Free w/Ice Maker	1	
Washer	1	
* Cart-Microwave	1	

141

*Optional

HOME ECONOMICS EDUCATION
Supply List

Independent Living

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
CLOTHING AND TEXTILES UNIT		
Iron	2	
Ironing Board	2	
Shears		
6-7" Bent trimmers; righthanded	10	
6-7" Bent trimmers; lefthanded	3	
Miscellaneous supplies: Markers, needles, fabric, thread, and bobbins.		
CONSUMER EDUCATION UNIT		
Calculator	1	
FOODS UNIT		
A kitchen is to be occupied by a maximum of four students. The following are needed per kitchen:		
Blender	1	
Bowl-Serving	2	
Bowl-Soup	8	
Bowls-Mixing, Set	1	
Can Opener-Electric	1	
Casserole	2	
Cookie Sheets	8	
Cups	1	
Cutlery Set	1	
Cutting Board, Acrylic	1	
Double Boilers	1	
Fire Extinguisher, Kitchen	1	
Flatware Set	1	
Food Processor-w/multi-use dish and blades	1	
Garbage Disposal	1	
Glasses	8	
Mixer-Portable	1	
Mixing Bowl Set	1	
Pans-Cake - 9"	3	
-13 x 9 x 2	1	
-Muffin	1	
-Tube	1	
Pan-Fry	1	
Pan-Fry-Electric	1	

142

HOME ECONOMICS EDUCATION
Supply List

Independent Living

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Pan-Pie	2	
Pan-Pizza	1	
Pan-Sauce - 1½ qt.	1	
- 2½ qt.	1	
- 4½ qt.	1	
Plates-Dessert	8	
Plates-Dinner	8	
Plates-Salad	8	
Platters	2	
Saucers	8	
Shears-Kitchen	1	
Storage Containers	4	
Thermometer-Oven	1	
Timer	1	
The following are needed per classroom:		
Bowl-Punch	1	
Broom	1	
Cookie Press	1	
Knife-Electric	1	
Ladle-Punch	1	
Microwave Cookware Set	1	
Mixer-Tabletop with heavy duty motor	1	
Pitchers	2	
Thermometer-Meat	1	
Toaster or toaster oven	1	
Trash can, heavy duty plastic	1	
Miscellaneous Supplies: Food, measuring cups and utensils, spatulas, tongs, wooden spoons, turners, cooling racks, pastry blenders, vegetable peelers, rolling pins, wire whips, cookie cutters, and table linens.		
For Comprehensive Courses the following is needed:		
Approximately $15 per student per year to purchase consumable items listed for units in interpersonal relationships, resource management, nutrition, consumer education, careers, housing, clothing and textiles, and parenting.		

143

HOME ECONOMICS EDUCATION
Equipment List

Interior Design and Housing

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Sewing Machines, Domestic	2	
Storage Cabinet	1	
Vacuum cleaner	1	

144

HOME ECONOMICS EDUCATION
Supply List

Interior Design and Housing

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Caulking Gun	1	
Drill, Hand	1	
Glue Gun	1	
Hammer		1:4
Pliers		1:4
Screwdriver - Phillips		1:4
Screwdriver - Slotted		1:4
Wrench, Adjustable	1	
Approximately $10 per student, per year is needed to purchase consumable items such as rubber gloves, electric plugs, nails, screws, fabrics, tag board, and resources developed by public and private agencies.		

145

HOME ECONOMICS EDUCATION
Equipment List

Parenting and Child Development

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
* Microcomputer, 364K, 2 Disk Drives * Printer	1	

*Optional

HOME ECONOMICS EDUCATION
Supply List

Parenting and Child Development

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Baby Care Demonstration Kit	1	
* Human Reproduction and Development Kit	1	
Approximately $10 per student, per year is needed to purchase consumable items such as puppets, thermometers, kits, resource books for children, baby care supplies, and computer software.		

147

*Optional

HOME ECONOMICS EDUCATION
Equipment List

Teen Living

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
CLOTHING AND TEXTILES UNIT		
Cabinets-Storage.	1	
Sewing Machines-Domestic		1:4
Table-Multipurpose	3	
* Serger	2	
CONSUMER EDUCATION UNIT		
* Microcomputer, 364K, 2 disk drives	1	
* Printer	1	
FOODS UNIT		
A kitchen is to be occupied by a maximum of four students.		
The following are need per kitchen;		
Ranges		1:4
Tables		1:4
The following are needed per classroom:		
Cart-Utility	1	
Demonstration Unit	1	
Dishwasher	1	
Dryer	1	
Microwave Oven	1	
Refrigerator; Frost Free w/Ice Maker	1	
Washer	1	
* Cart-Microwave	1	

140

*Optional

HOME ECONOMICS EDUCATION
Supply List

Teen Living

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
CLOTHING AND TEXTILES UNIT		
Iron	2	
Ironing Board	2	
Shears		
6-7″ Bent trimmers; righthanded	10	
6-7″ Bent trimmers; lefthanded	3	
Miscellaneous supplies: Markers, needles, fabric, thread, and bobbins.		
CONSUMER EDUCATION UNIT		
Calculator	1	
FOODS UNIT		
A kitchen is to be occupied by a maximum of four students. The following are needed per kitchen:		
Blender	1	
Bowl-Serving	2	
Bowl-Soup	8	
Bowls-Mixing, Set	1	
Can Opener-Electric	1	
Casserole	2	
Cookie Sheets	8	
Cups	1	
Cutlery Set	1	
Cutting Board, Acrylic	1	
Double Boilers	1	
Fire Extinguisher, Kitchen	1	
Flatware Set	1	
Food Processor-w/multi-use dish and blades	1	
Garbage Disposal	1	
Glasses	8	
Mixer-Portable	1	
Mixing Bowl Set	1	
Pans-Cake - 9″	3	
-13 x 9 x 2	1	
-Muffin	1	
-Tube	1	
Pan-Fry	1	
Pan-Fry-Electric	1	

HOME ECONOMICS EDUCATION
Supply List

Teen Living

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Pan-Pie	2	
Pan-Pizza	1	
Pan-Sauce - 1½ qt.	1	
- 2½ qt.	1	
- 4½ qt.	1	
Plates-Dessert	8	
Plates-Dinner	8	
Plates-Salad	8	
Platters	2	
Saucers	8	
Shears-Kitchen	1	
Storage Containers	4	
Thermometer-Oven	1	
Timer	1	
The following are needed per classroom:		
Bowl-Punch	1	
Broom	1	
Cookie Press	1	
Knife-Electric	1	
Ladle-Punch	1	
Microwave Cookware Set	1	
Mixer-Tabletop with heavy duty motor	1	
Pitchers	2	
Thermometer-Meat	1	
Toaster or toaster oven	1	
Trash can, heavy duty plastic	1	
Miscellaneous Supplies: Food, measuring cups and utensils, spatulas, tongs, wooden spoons, turners, cooling racks, pastry blenders, vegetable peelers, rolling pins, wire whips, cookie cutters, and table linens.		
For Comprehensive Courses the following is needed:		
Approximately $15 per student per year to purchase consumable items listed units in clothing and textiles, foods and nutrition, housing, management, consumer education, family living/parenthood.		

150

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION

Industrial Arts/Technology Education is a comprehensive, action-based educational program concerned with technical means, their evolution, utilization and significance; with industry, its organization, personnel, systems, techniques, resources and products, and their social and cultural impact.

In order to meet the goals of Industrial Arts/Technology Education, a minimum supply list of non-consumable items is provided. In addition to the items included on the supply list, a $20 minimum amount per student for other supplies (not included on the supply list) is recommended for each Industrial Arts/Technology Education course. However, to allow for the instructor to maximize opportunities for students to explore and solve problems utilizing innovative activities requiring up-go-date workbooks, supplies and materials, additional funds may be necessary.

Optional equipment and supplies are denoted by an asterisk.

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Communications Systems

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Collator	1	
* Offset press (table top)	1	
Spirit Duplicator	1	
* Platemaker		
Strip Printer	1	
* Plate finishing table	1	
Light tables		1:10
Electric typewriter	1	
2 Station Drafting tables		1:3
White printer	1	
Film storage refrigerator	1	
Process camera	1	
Drymount Press	1	
Workbenches w/plastic laminate top and lockers		1:5
Electronics bench w/instrument shelf	1	
Thermal Processor/copier	1	
Work Learn Stations (graphic comm.)	1	
Micro-Processor(s) w/accessories	1	
Laser Printer		1:10
Dot Matrix Printer (color)	1	
Thunderscan		1:10
Video Digitizer		1:10
Modem	1	
Slide and Transparency Viewing System	1	
Color Pattern Generator		1:10
Color Processor		1:10
Color Photographic Enlargers		1:6
Black and White Photographic Enlargers		1:6
Darkroom Sink	1	
Laminating Press and Sealing Tool		1:10
Kroy Machine		1:10
Waxer		1:10
* PMT Processor		1:10
* Master converter Electrostatic Plate Maker		1:10
* Diffusion Transfer Processor		1:10
* Tabletop Contact Plate Maker		1:10
* Half-tone Flashing Lamp		1:10
Electrostatic Copier w/enlarging and reducing	1	
* Binding Press and Punch		1:10

152

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Communications Systems – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
* Stitcher		1:10
Sign Press	1	
Book Binding Equipment	1	
* Paper Folder		1:10
* Corner Rounder		1:10
Padding Press	1	
* Paper Drill		1:10
Electronic Communications Trainer	1	
Laser Communications Technology Trainer		1:10
Video Recorders/Cameras	1	
Video Monitors	1	
Audio Recorder w/accessories	1	
* Table Top, Modular, Flexible Equipment Such As:		
CAD Work Cell	1	
Computer Integrated Manufacturing Work Cell	1	
Control Technology Work Cell	1	
Graphics Design Work Cell	1	
Table Top Publishing Work Cell	1	

153

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Electronic Communications Systems

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Instructor's electrical demonstration bench	1	
Large electrical workbench w/110 volt power strip, antenna leads, and lockers	1	
Student electrical workbench/station with lockers and power source	6	
Electrical hand tool cabinet w/appropriate electrical tool assortment (w/test equipment)	1	
Drill press	1	
Small table top sheet metal box & pan brake	1	
Small table top sheet metal notcher	1	
Micro-Processor(s) w/accessories	4	
Dot Matrix Printer (color)	1	
Modem	1	
Electronic Communication Work/Learn Stations w/electrical service	1	
Electronic Communications Trainer	1	
Radio Trainer	1	
Laser Communication Kit	1	
Microwave Trainer	1	
Electronic Communications Technology Trainer	1	
Fiber Optics Trainer	1	
Digital Trainer	1	
Sheet Metal bench with vises	1	
* Table Top, Modular, Flexible Equipment Such As:		
Electronic Work Cell	1	
Robotic Work Cell	1	
Satellite Work Cell	1	
Control Technology Work Cell	1	

152

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Graphic Communications Systems

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Drafting/Layout Table	8	
Light table/layout and lineup	3	
Paper folder 11 x 17 max.	1	
Paper drill	1	
Paper cutter, 24" max.	1	
Shrink wrap unit	1	
Collator	1	
Paper jogger	1	
Screen printing work table with plastic laminate top and lockers	1	
Power screen printing press, 12 x 18 max.	1	
Work bench/table w/lockers and plastic laminate top	4	
Sign press/print maker/proof press w/work stand and standard large character fonts	1	
Platen press 11 x 17 max.	1	
Type bank/cabinet w/type fonts	1	
Rubber stamp press	1	
Offset press	1	
Spirit duplicator	1	
Process camera, Litho, 18 x 22	1	
Electric typewriter	1	
Strip printer	1	
Litho plate sink	1	
Electrostatic plate maker	1	
Developing sink, two sided	1	
Film storage refrigerator	1	
Laser Printer		1:10
Thunderscan		1:10
Video Digitizer		1:10
Modem	1	
Color Pattern Generator		1:10
Color Processor		1:10
Color Photographic Enlargers		1:10
Kroy Machine		1:10
PMT Processor		1:10
Diffusion Transfer Processor		1:10
Tabletop Contact Plate Maker		1:10
Half-tone Flashing Lamp		1:10
Electrostatic Copier w/enlarging and reducing	1	

155

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Graphic Communications Systems – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Binding Press and Punch		1:10
Book Binding Equipment	1	
Corner Rounder		1:10
* Table Top, Modular, Flexible Equipment Such As:		
CAD Work Cell	1	
Robotic Work Cell	1	
Graphics Design Work Cell	1	
Table Top Publishing Work Cell	1	

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Media Communications Systems

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Pilot Press	1	
Type cabinet	1	
Rubber Stamp Press	1	
Signpress/printmaker	1	
Heavy duty paper cutter (24" max.)	1	
Paper Drill	1	
Jogger	1	
Folder	1	
Offset press (table top)	1	
Spirit Duplicator	1	
Strip Printer	1	
Plate finishing table	1	
Light tables		1:10
Electric typewriter	1	
2 Station Drafting tables		1:3
White printer	1	
Film storage refrigerator	1	
Process camera	1	
Drymount Press	1	
Workbenches w/plastic laminate top and lockers		1:5
Thermal Processor/copier	1	
Work Learn Stations (graphic comm.)	1	
Micro-Processor(s) w/accessories		1:5
Laser Printer		1:10
Dot Matrix Printer (color)	1	
Thunderscan		1:10
Video Digitizer		1:10
Modem	1	
Slide and Transparency Viewing System	1	
Color Pattern Generator		1:10
Color Processor		1:10
Color Photographic Enlargers		1:10
Black and White Photographic Enlargers	1	
Darkroom Sink	1	
Laminating Press and Sealing Tool		1:10
Waxer		1:10
PMT Processor		1:10
Master converter Electrostatic Plate Maker		1:10

157

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Media Communications Systems – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Diffusion Transfer Processor		1:10
Tabletop Contact Plate Maker		1:10
Half-tone Flashing Lamp		1:10
Electrostatic Copier w/enlarging and reducing	1	
Binding Press and Punch		1:10
Saddle Stapler		1:10
Padding Press	1	
Electronic Communication Work/Learn Stations w/electrical service		1:10
Electronic Communications Trainer	1	
Laser Communications Technology Trainer		1:10
Video Recorders/Cameras	1	
Video Monitors	1	
Audio Recorder w/accessories	1	
High Speed Audio Tape Duplicator		1:10
AM/FM Receivers	1	
AM/FM Broadcast Transmitter	1	
Reel to Reel Recorder	1	
Tabletop, Modular, Flexible Equipment Such As:		
CAD Work Cell	1	
Robotic Work Cell	1	
Graphics Design Work Cell	1	
Table Top Publishing Work Cell	1	

153

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Communications Systems, Electronics Communications Systems
Graphic Communications Systems, Media Communications Systems

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Saddle stapler	1	
Paper Storage Cabinet	1	
Drying Rack, 26 x 36 max.	1	
Drafting stools		1:1
Drafting machines		1:10
35 mm camera (SLR)	1	
Light meters		1:10
Tripod		1:10
Easels		1:6
Print washer, 18"	1	
Film dryer	1	
Printer dryer	1	
Timer		1:6
Timer (Enlarger)		1:6
Safe lights (Enlarger)		1:6
Film/Editor Viewer	1	
Temperature control valves	1	
Photographic chemistry cabinet	1	
Bench model, drill press	1	
Electric drill, hand portable		1:10
Instructor's table	1	
Sheet metal work bench	1	
Standard work table	1	
Standard shelving unit	1	
Multi-purpose storage cabinet	4	
Solvent safety cabinet	1	
Safety cans		1:5
Oily waste container safety (flame proof)	1	
Printed circuit board shear w/accessories	1	
Breadboard Systems		1:2
Power Supply, D.C. low voltage		1:2
Volt-ohm meters		1:2
Assorted Drafting Supplies/Instruments	1	
Paper Dispenser (Kraft)	1	
Parts Cabinets	1	
Activity Storage Cabinets	1	
Activity Storage Cabinets (with tote trays)	1	
Material Storage Cabinets	1	

150

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Communications Systems, Electronics Communication Systems
Graphic Communications Systems, Media Communications Systems – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Service Carts	1	
Wall Cabinets (tool)	1	
Mobile Material and Activity Carts		1:8
Plastic Tape Labeler	1	
Drafting Stools		1:1
Filter/Regulator/Lubricators (for compressed air)	1	
Heavy Duty Extension Cords (Appropriate Safety Equipment for 20-30 students)		1:8
Safety Glasses w/Cabinet		
Hearing Protection w/Storage Cabinet		
First Aid Kit		
Fire Blanket		
Flammable Material Storage Cabinet		
Protective Gloves		
Face Shields		
Spread Sheet Software	1	
Word Processing Software	1	
Graphic(s) Software	1	
Clip Art	1	
Draw Software	1	
Dictionary Software	1	
Font Software	1	
Table Top Publishing Software		1:10
Poster and Sign Software	1	
Newspaper/Bulletin Software	1	
Specialty Communications Software		1:10
Air Brush System	1	
Studio Lights		1:10
Flash Units		1:10
Photographic Light Source		1:10
Photo Print Cutter	1	
Bulk Film Loader		1:10
Paper Safe Holder	1	
Contact Frame and Lamp	1	
Silk Screen Kit	1	
Silk Screen Drying Rack		1:10
Film Cabinet		1:10
Film Cutter		1:10
Electrical Tools (hand)	1	

100

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Communications Systems, Electronics Communication Systems
Graphic Communications Systems, Media Communications Systems – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Transistor Tester		1:10
Capacitor Substitution Box		1:10
Resistance Substitution Box		1:10
Signal Tracer		1:10
Small Parts Cabinet		1:10
Video Equipment Cart	1	
Oscilloscope		1:10
Signal Generator		1:10
Resistance box		1:2
Frequency Counter		1:2
Audio Generator		1:2
Sound Level Meter		1:2
Electronic Communications Kits		1:2
Fiber Optics Kit		1:2
Misc. Hand Tools		1:2
Electric Power Reels (110v overhead)	1	
Table top Technik Supplies		1:6
Signal Generator, RF	7	
Signal Generator, AF	7	
Transistor Tester	1	
Capacitor Tester	1	
Digital Volt meter	1	
Approximately $20 per student is needed to purchase consumable items such as: cables, cells, film, etc.		

161

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Construction Planning & Design

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Portable Drafting Boards w/parallel		1:1
Work Learn Stations (design)	1	
Wall Cabinets (tool)	1	
Portable Wet/Dry Shop Vacs	1	
Portable Light Table/s	1	
Micro-Processor(s) w/accessories		1:4
Plotter	1	
Modem	1	
Work Benches	1	
Drill Press	1	
Band Saw	1	
Styrofoam Cutter	1	
Blue Line Machine	1	
Desk Top Copier with enlarging and reducing	1	
Slide and Transparency Viewing System	1	
Table Top Technology Mini Lab	1	
Metal Vises	1	
Woodworking Vises	1	
* Table Top, Modular, Flexible Equipment Such As:		
CAD Work Cell	1	
Computer Integrated Manufacturing Work Cell	1	
Material Testing Work Cell	1	
Control Technology Work Cell	1	
Graphics Design Work Cell	1	
Table Top Publishing Work Cell	1	

163

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Construction Systems
Structures & Systems

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Bench, Demonstration	1	
Bench, Work, 4 Station w/woodworking vises and storage lockers	5	
Saw, Tilting Arbor, 10"	1	
Saw, Band, 14"	1	
Press, Drill, 15", V/Speed	1	
Jointer, 6"	1	
Grinder, Ped., 7"	1	
Box Mitre w/saw	1	
Transit, Geotilt, Level	1	
Cleaner, Vacuum, H.D.	1	
Saw, Cut Off, 7¼", H.D.	3	
Sander, Belt, 3 x 24, H.D.	1	
Paper Cutter	1	
Portable Drafting Boards w/parallel		1:4
C/D Plotter	1	
Portable Light Table/s	1	
Micro-Processor(s) w/accessories		1:10
Dot Matrix Printer		1:5
Modem	1	
10" Radial Saw	1	
Motorized Miter Saw	1	
Scroll Saw	1	
Panel Saw	1	
Oxygen/Acetylene Rigging w/accessories	1	
Welding Bench w/curtains	1	
Arc Welder	1	
Complete Sheet Metal Bench w/equipment	1	
Dust Collection System with Flexible Connections	1	
Robotic Exploration Equipment	1	
Laser Trainer	1	
* Table Top, Modular, Flexible Equipment Such As:		
CAD work cell	1	
Robotic work cell	1	
Computer Integrated Manufacturing work cell	1	
Material Testing work cell	1	
Control technology work cell	1	
Structures work cell	1	
Graphics Design work cell	1	

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Electro/Mechanical Systems & Servicing

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Bench, Demonstration	1	
Bench, Work, 4 Station w/woodworking vises and storage lockers	5	
Saw, Tilting Arbor, 10"	1	
Saw, Band, 14"	1	
Press, Drill, 15", V/Speed	1	
Jointer, 6"	1	
Grinder, Ped., 7"	1	
Box Mitre w/saw	1	
Transit, Geotilt, Level	1	
Cleaner, Vacuum, H.D.	1	
Saw, Cut Off, 7¼", H.D.	3	
Sander, Belt, 3 x 24, H.D.	1	
Paper Cutter	1	
Portable Drafting Boards w/parallel		1:4
Plotter	1	
Portable Light Table/s	1	
Micro-Processor(s) w/accessories		1:10
Dot Matrix Printer		1:5
Modem	1	
10" Radial Saw	1	
Motorized Miter Saw	1	
Scroll Saw	1	
Panel Saw	1	
Oxygen/Acetylene Rigging w/accessories	1	
Welding Bench w/curtains	1	
Arc Welder	1	
Complete Sheet Metal Bench w/equipment	1	
Dust Collection System with Flexible Connections	1	
Robotic Exploration Equipment	1	
Laser Trainer	1	
Cooling System Trainer	1	
Heating System Trainer	1	
Solar Energy Trainer	1	
Electricity/Electronic Trainer		1:10
Power Experimenter		1:5
Fluid Power Trainer	1	
Plumbing System Trainer	1	
Hydraulics Trainer	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Electro/Mechanical Systems & Servicing – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Thermodynamics Trainer	1	
*Table Top, Modular, Flexible Equipment Such As:		
Robotic Work Cell	1	
Energy Work Cell	1	
Pneumatic Work Cell	1	
Hydraulic Work Cell	1	
Control Technology Work Cell	1	
Laser Work Cell	1	
Structure Work Cell	1	

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Construction Systems, Structures & Systems, Construction Planning & Design, Electro/Mechanical Systems & Servicing

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cabinet with Tools and Storage	1	
Cabinet, Hardware	1	
Cabinet, Utility	3	
Cabinet, Paint Storage Safety	1	
Rack Metal Storage	1	
Unit, Nail Bin	1	
Rack, Plywood Storage	1	
Rack, Lumber Storage	1	
Saw, Bayonet, H.D.	2	
Sander, Vibrating	2	
Drill, 3/8", H.D.	3	
Drill, 1/2", H.D.	1	
Router, H.D., Complete	1	
Paper Dispenser (Kraft)	1	
Parts Cabinets	1	
Activity Storage Cabinets	1	
Activity Storage Cabinets w/tote trays	1	
Material Storage Cabinets	1	
Service Carts	1	
Wall Cabinets (tool)	1	
Mobile Material and Activity Carts	1	
Plastic Tape Labeler	1	
Filter/Regulator/Lubricators (for compressed air)	1	
Appropriate Size/Weight/Volume Measuring Equipment	1	
Heavy Duty Extension Cords (25'-100')	1	
Appropriate Safety Equipment (enough for 20-25 students)	1	
Safety Glasses w/Cabinet	1	
Hearing Protection w/Storage Cabinet	1	
First Aid Kit	1	
Fire Blanket	1	
Fire Extinguishers	1	
Waste Cans (for rags)	1	
Flammable Material Storage Cabinets	1	
Protective Gloves		1:6
Face Shields		1:1
Spread Sheet Software	1	
Word Processing Software	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Construction Systems, Structures & Systems, Construction Planning & Design, Electro/Mechanical Systems & Servicing - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Graphic(s) Software	1	
Clip Art	1	
Specialty Architectural Software	1	
CAD Software	1	
Dictionary Software	1	
Wall and/or Shelf Storage Units for Specialty Tools	1	
Layout Tools (set)	2	
Assorted Drafting Supplies/Instruments Templates (Sets)	1:1	
Modeling Software		1:4
Drafting Stools		1:4
Portable Electric Circular Saws	1	
Portable Electric Belt Sander	1	
Portable Electric Power Plane	1	
Miter Box Saw	1	
Belt/Disc Sander	1	
Electric Power Reel/s (110 v overhead)	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Construction Systems, Structures & Systems, Construction Planning & Design, Electro/Mechanical Systems & Servicing - *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Water and Air Hose and Reels	1	
Recoil Air Hose (25')	1	
Construction Wiring Trainer w/accessories	1	
Electrical Wiring and Demonstration Kit	1	
4-Way Gauge Testing Set/Case	1	
Electronic Leak Tester	1	
Clamp Type Volt-Ohm Meter	1	
Digital Volt-Ohm Meter	1	
Portable Air Compressor	1	
Portable Airless Spray System	1	
Power Nailer	1	
Power Stapler	1	
Portable Tank Truck for Gas Welder	1	
Modeling Tool Set		1:4
Building Model (Kits)		1:4
Misc. Hand Tools (Wood, Metal, Plastic, etc.)	1	
Tote Trays	2	
Clamps	16	
Bar	16	
C-Clamps	16	
Parallel Jaw	16	
Quick Action	16	
Spring	16	
Approximately $20 per student is needed to purchase consumable items such as: nails, wiring materials, paper, etc.		

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Contemporary Technology & Exploring Technology

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Styrofoam Cutter		1:5
Work Benches 4 Stations w/woodworking vises and lockers		1:5
Work Benches 6′ x 30″ x 30″		1:3
Instructor's Demonstration Bench 24″ x 48″ with storage compartment	1	
Bandsaw 14″ Wood and Metal Cutting	1	
Tool Cabinet - General Tol Storage for General Lab Tool Assortment	1	
Disc & Belt Sander w/dust collecter	1	
Planer	1	
Wood Lathe	1	
Scroll Saw	2	
Drill Press	2	
Pedestal Grinder	1	
Microcomputer w/accessories		1:4
Small Engine Dynamometer	2	
Typewriter	1	
* Robotic Work Cell	1	
* CAD Work Cell	1	
* Pneumatic Work Cell	1	
Laser Trainer Work Cell	1	
Robotic Trainer	1	
CAD/CAM Trainer	1	
CNC Trainer	1	
Control Technology Trainer	1	
Material Testing Equipment	1	
* Structure Work Cell	1	
* Table Top Publishing Work Cell	1	
* Table Top Graphic Design	1	
Fiber Optics Trainer	1	
Solar Energy Trainer	1	
Model Building	1	
Electricity/Electronic Trainer	1	
Spot Welder	1	
Communication Trainer	1	
* Video Recorder/Cameras	1	
* Video Monitors	1	
Table Saw, Tilting Arbor	1	

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Contemporary Technology & Exploring Technology

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
3/8" Portable Electric Drill		1:5
Sander, Vibrating Electric		1:5
Saw, Bayonet H.D.		1:10
Safety Glasses Cabinet, complete w/glasses and goggles and sanitizing unit	1	
Welder, Spot	1	
Paint Storage Safety Cabinet	1	
Storage Rack - Plywood	1	
Lumber & Metal Storage Rack	1	
2-Cycle Internal Combustion Engines (Small)	5	
4-Cycle Internal Combustion Engines (Small)	10	
2 Station Drafting Tables	6	
Drafting Stools	12	
Small Engine Tool Panel	1	
Electricity/Electronics experimenter module	5	
Strip Printer	1	
Camera 35 mm	2	
Injection Molder	1	
Plastics Oven - 12" x 20"	1	
Plastic Strip Heater - Sheet Size	1	
Vacuum Former - Vacuum-Forming Machine	1	
Mitre Box with Backsaw	1	
Metric 500 Computerize Starting Kit	1	
Table Top Technik Kit	1	
Assorted Drafting Supplies/Instruments/Templates (sets)	1	
Parts Cabinets	1	
Activity Storage Cabinets w/tote trays	1	
Material Storage Cabinets	1	
Flammable Material Storage Cabinet	1	
Mobile Material and Activity Carts w/tote trays	1	
Plastic Tape Labeler	1	
Recoil Air Hose (25')	1	
Filter/Regulator/Lubricators (for compressed air)	1	
Appropriate Size/Weight/Volume Measuring Equipment	1	
Heavy Duty Extension Cords (25')	1	
Word Processing Software	1	
Spread Sheet Software	1	
Data Base	1	
Sign Making Software	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Contemporary Technology & Exploring Technology

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Graphic(s) Software	1	
Clip Art	1	
Electronic Circuit Design Software	1	
Computer Projector	1	
CAD Software	1	
Modeling Software	1	
Architectural Software	1	
Draw Software	1	
Dictionary Software	1	
Specialty Design Software	1	
Modeling Tools (sets)	1	
Layout Tools (sets)	1	
Misc Hand Tools (wood, metal, plastic, etc.)	1	
Building Modeling Kits	1	
Approximately $20 per student is needed to purchase consumable items such as: paper, robotic, and laser items, computer diskettes, etc.		

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Designing Products

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Portable Drafting Boards w/parallel		1:1
Work Learn Stations (design)	1	
Wall Cabinets (tool)	1	
Portable Light Table/s	1	
Micro-Processor(s) w/accessories		1:4
Plotter	1	
Modem	1	
Work Benches	1	
Drill Press	1	
Band Saw	1	
Styrofoam Cutter	1	
Blue Line Machine	1	
Desk Top Copier with enlarging and reducing	1	
Slide and Transparency Viewing System	1	
Metal Vises	4	
Woodworking Vises	4	
* Table Top, Modular, Flexible Equipment Such As:		
CAD Work Cell	1	
Computer Integrated Manufacturing Work Cell	1	
Material Testing Work Cell	1	
Control Technology Work Cell	1	
Graphics Design Work Cell	1	
Table Top Publishing Work Cell	1	

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Manufacturing Systems
Manufacturing Material & Processes
Product & Production System Design

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Circular Saw 10″ tilting arbor	1	
Jointer	1	
Disc & Belt Sander, w/dust collector	1	
Planer 16″	1	
Wood Lathe 12″	1	
Scroll Saw 24″	2	
Drill Press 15″	2	
Pedestal Grinder 10″	1	
Heat Treating & Crucible Furnace Combination	1	
Foundry Molding Bench	1	
* Welding Bench (Arc)	1	
* Welding Bench (Gas)	1	
* Welder, Electric Arc, Gas welding & cutting	1	
Welder, Spot	1	
Metal Lathe 10″	1	
Metal Bench - 96″ x 40″ x 2″	1	
Slip Roll 24″	1	
Box & Pan Brake 24″	1	
Squaring Shears 36″	1	
Bar Folder 24″	1	
Microcomputer, w/accessories		1:5
Work Benches - 4 Station w/woodworking vises and lockers	4	
Work Benches 6′ x 30″ w/storage lockers	6	
Instructor's Demonstration Bench 24″ x 48″ with storage compartments	1	
Spirit Duplicator	1	
Typewriter	1	
Injection Blow Molder	1	
Injection Molder	1	
Plastics Oven	1	
Plastic Strip Heater	1	
Vacuum Former	1	
Bandsaw 14″ Wood and Metal Cutting	1	
Tool Cabinet - General Tool Storage	1	
Thermal Processor	1	
Table-Top Copier (w/ability to enlarge and reduce)	1	
Sign Press w/accessories	1	
Paper Cutter	1	
Portable Drafting Boards w/parallel	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Manufacturing Systems
Manufacturing Material & Processes
Product & Production System Design

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Laser Trainer		1:10
Metalworking Vises	1	
Portable Wet/Dry Shop Vacs	1	
Portable Light Tables/s	1	
Radial Saw	1	
Motorized Miter Box	1	
Pneumatic Drum Sander w/accessories	1	
Sander/Grinder	1	
Oscillating Spindle Sander w/accessories	1	
Wood Shaper w/accessories	1	
Overarm Router w/accessories	1	
Wood Welder w/accessories	1	
Table Top Material Processing Equipment (such as)	1	
Drop Forge	1	
Blanking Die	1	
Explosion Former	1	
Hydroformer	1	
Hydraulic Press	1	
Table Top Foundry Units	1	
Mold Casting Units	1	
Universal Testing Machine	1	
Hardness Tester w/accessories	1	
Tensile Tester w/accessories	1	
Spray Booth w/accessories	1	
Sand Blaster	1	
High Temp Kiln w/Pyrometer and Kiln Setter w/accessories	1	
Wedging Board	1	
Complete Sheet Metal Bench w/equipment	1	
Soldering Furnace w/accessories	1	
Soldering Bench w/accessories	1	
Anvil	1	
Arbor Press	1	
Tool Grinder	1	
Bender w/accessories	1	
Vertical Milling Machine w/accessories	1	
Tap and Die Set (English and Metric)	1	
Styrofoam Cutter	1	
Expandable Bead-Heater	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Manufacturing Systems
Manufacturing Material & Processes
Product & Production System Design

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Pedestal or Table Top Buffer	1	
Hot Plate	1	
Rotational Molder w/accessories	1	
Bag Sealer	1	
Dust Collection System with Flexible Connections	1	
Daisy Wheel Printer or Dot Matrix Printer	1	
Modem	1	
Fiber Optics Trainer	1	
A/B Plotter		1:10
CAD/CAM Trainer	2	
Robotic Trainer		1:10
CNC Lathe	1	
* Table Top, Modular, Flexible Equipment Such As:		
CAD Work Cell	1	
Computer Integrated Manufacturing Work Cell	1	
Material Testing Work Cell	1	
Control Technology Work Cell	1	
Graphics Design Work Cell	1	
Table Top Publishing Work Cell	1	

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Manufacturing Systems
Manufacturing Material & Processes
Product & Production System Design
Designing Products

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Safety Glasses Cabinet, complete w/glasses & Goggles and	1	
sanitizing unit	1	
Paint Storage Safety Cabinet	1	
Storage Rack - Plywood	1	
Lumber & Metal Storage Rack	1	
Glue and Stain Bench	1	
Silk Screening Kit	1	
Assorted Drafting Supplies/Instruments Templates		1:1
Paper Dispenser (Kraft)	1	
Parts Cabinets	1	
Activity Storage Cabinets	1	
Material Storage Cabinets	1	
Mobile Material and Activity Carts w/tote trays	1	
Service Cart	1	
Plastic Tape Labeler	1	
Filter/Regulator/Lubricators (for compressed air)	1	
Appropriate Size/Weight/Volume Measuring Equipment	1	
Heavy Duty Extension Cords		1:6
Hearing Protection w/Storage Cabinet	1	
First Aid Kit	1	
Fire Blanket	1	
Flammable Material Storage Cabinet	1	
Fire Extinguishers	1	
Waste Cans (rags)	1	
Protective Gloves	1	
Face Shields	1	
Electric Portable Router		1:6
Router/Shaper Table		1:6
3/8" Portable Electric Drills		1:6
1/2" Portable Electric Drills		1:6
Portable Electric Saber Saw		1:6
Portable Electric Belt Sander		1:6
Portable Electric Sanders		1:6
Misc. Hand Tools (wood, metal, plastic, and ceramic)	1	
Hand Held Multi-Meter (volt/ohm)	1	
Microscope w/accessories	1	
Temperature Meter w/accessories	1	
Set Ceramic Sculpture and Modeling	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Manufacturing Systems
Manufacturing Material & Processes
Product & Production System Design
Designing Products – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Ceramic Bench Tools (sets)	1	
Wet Rack	1	
Layout Tools (set)	2	
Modeling Software		1:4
Drafting Stools		1:1
Modeling Tool Set		1:4
Drying Rack	1	
Storage Bin for Clays	1	
Pedestal Grinder	1	
Metal Lathe w/accessories	1	
Molds for (Foam, Expanding Beads, Resins, Injection, Thermoforming, etc.)	1	
Time Clock and Card Holder	1	
Industrial Controls Kit	1	
Toggle clamps and Accessories	1	
Recoil Air Hose (25′)	1	
Electric Recoils (110 v overhead)	1	
Electric Screw Driver/s	1	
Electric Nailer/Staplers	1	
Tote Trays	1	
Mobile Machine Bases (for each mobile machine)	1	
Conveyers - Belt (12″ x 6′)	2	
Conveyers - Gravity Feed (12″ x 5″ x 10″)	2	
Ball Transfer Table	1	
Heat Gun	1	
Clamps	1	
Quick-Action Clamps	16	
Air Clamping Cylinders w/Valves	4	
Bar	16	
C-Clamps	16	
Parallel Jaw	16	
Spring	6	
Band	1	
Spread Sheet Software	1	
Word Processing Software	1	
Graphic(s) Software	1	
Clip Art	1	
CAD Software	1	
Dictionary Software	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Manufacturing Systems
Manufacturing Material & Processes
Product & Production System Design
Designing Products – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Specialty Manufacturing Software	1	
Approximately $20 per student is needed to purchase consumable items such as: paper, robotic & laser items, computer diskettes, etc.		

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Transportation Systems
Technical Elements of Transportation
Human and Product Transportation Systems
Planning and Designing Transportation Systems

Equipment Item	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Drill Press (18" - 20")	1	
Pedestal Grinder	1	
Arbor Press	1	
Small Engine Dynamometer		1:6
* Diesel Engines	2	
* Rotary Engines	1	
* Outboard Engines	2	
Automotive Engine-4, 6 or 8 cylinder (transparent)	1	
Small Engine Test Bench	1	
Electric Power Trainers	1	
Exhaust System for all Engines	1	
* ARC Welder	1	
* Acetylene Welder	1	
Steam Turbine Generator	1	
Hydro Turbine General	1	
Solar Electric Trainer	1	
Wind Power Generator	1	
Compressed Air Generator	1	
Mechanical Energy Transmission Trainer	1	
Laser Energy Transmission Trainer	1	
* Microwave Energy Transmission Trainer	1	
Electrical Energy Transmission Trainer	1	
Acoustic Energy Transmission Trainer	1	
Hydraulic Energy Transmission Trainer	1	
Pneumatic Energy Transmission Trainer	1	
Lathe (12")	1	
Work Benches (Wood Top)	1	
Work Benches (Metal Top)	6	
Portable Drafting Boards w/parallel	4	
Micro-Processor(s) w/accessories	4	
Dot Matrix Printer and/or Plotter	4	
Modem	1	
Table Saw	1	
Belt/Disc Sander	1	
Scroll Saw	1	
	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Transportation Systems
Technical Elements of Transportation
Human and Product Transportation Systems
Planning and Designing Transportation Systems – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Complete Sheet Metal Bench	1	
Spot Welder	1	
Metal Lathe	1	
* Thermo-Electric Generator Test Unit	1	
Steam Engines	1	
Steam Engine Test Unit	1	
Steam Boiler	1	
Steam Turbine Test Unit	1	
* Pulse Jet Test Unit	1	
Metal Lathe	1	
* Engine Models	1	
4 Cycle Engines		1:5
2 Cycle Engines		1:2
* EPIC I Engine Analysis System	1	
Wind Tunnel	1	
Wind Generator	1	
Technology Modeling Work/Learn	1	
Station with:		
Digital Input Service Module	1	
Analog Input Service Module	1	
Digital Output Service Module	1	
Control Technology Kit w/components	1	
Advanced Control Technology Kit w/components	1	
Robotic Exploration Kit	1	
Robotic Applications Work Cell	1	
Turbo-Jet Model	1	
* Table Top, Modular, Flexible Equipment Such As:		
Pneumatic Work Cell	1	
CAD Work Cell	1	
Material testing Work Cell	1	
Control Technology Work Cell	1	
Laser Work Cell	1	

*Optional

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Transportation Systems
Technical Elements of Transportation
Human and Product Transportation Systems
Planning and Designing Transportation Systems

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Demonstration Bench	1	
Flammable Storage Cabinet	1	
Cleaner, Spark plug	1	
Engine Test Stands (Large)	1	
Parts Washer	1	
Outboard Test Tank	1	
Assorted Drafting Supplies/Instruments/Templates		1:1
Paper Dispenser (Kraft)	1	
Part Cabinets	1	
Activity Storage Cabinets	1	
Activity Storage Cabinets w/tote/trays	1	
Material Storage Cabinets	1	
Plastic Tape Labeler	1	
Filter/Regulator/Lubricators	1	
Appropriate Size/Weight/Volume Measuring Equipment	1	
Heavy Duty Extension Cords (25')		1:6
Safety Glasses w/Cabinet	1	
Hearing Protection w/Storage Cabinet	1	
First Aid Kit	1	
Fire Blanket	1	
Fire Extinguishers	1	
Waste Cans (rags)	2	
Flammable Material Storage Cabinet	2	
Protective Gloves		1:1
Face Shields		1:1
Spread Sheet Software	1	
Word Processing Software	1	
Graphic(s) Software	1	
Clip Art	1	
Specialty Transportation Software	1	
CAD Software	1	
Dictionary Software	1	
Power Reels (110v overhead)	1	
Bandsaw (combination wood & metal)	1	
Miter Box Saw	1	
Misc. Wood and Metal Hand Tools	1	
Portable Tank Truck for Gas Welder	1	
Welding Table	1	

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Supply List

Transportation Systems
Technical Elements of Transportation
Human and Product Transportation Systems
Planning and Designing Transportation Systems – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Power Lab Tool Package	1	
Solar Cell Test Unit	1	
Solar Energy Collector(s)	1	
Solar Trainer	1	
Photo Voltaic Demo Kit	1	
Computerized Metric 500 Unit	1	
Solar Experiment Kit	1	
Vacuum Pump	1	
Parts Cleaner	1	
Small Engine Tools	1	
Water Turbine	1	
Rocket Propulsion Kit	1	
Magnet Kit	1	
Galvanometer/Unit/Ohm Meter	1	
Solar Test Box	1	
Temperature Meter	1	
Rocket Activity Package	1	
Hot Plate	1	
Sound Level Meter	1	
Coil and Condenser Tester	1	
Air Fuel Ratio Tester	1	
Volt/Ohm Meters	1	
Electric Portable Router	1	
Router/Shaper Table	1	
3/8" Portable Electric Drills	1	
1/2" Portable Electric Drills	1	
Portable Electric Saber Saw	1	
Portable Electric Belt Sander	1	
Portable Electric Sanders	1	
Clamps	1	
Quick-Action Clamps	6	
Air Clamping Cylinders w/Valves	4	
Ba	6	
C-Clamps	6	
Parallel Jaw	6	
Spring	6	
Band	2	
Approximately $20 per student is needed to purchase consumable items such as: electrical/electronics items, solders, connectors, solar cells, etc.		

INDUSTRIAL ARTS/TECHNOLOGY EDUCATION
Equipment List

Technology Research and Development
Industrial Enterprise

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
NOTE: Students are enrolled in these synthesis courses to research and develop special products, projects, or establish and dissolve an industrial related company. The special activities revolve around the four technological systems of (1) Manufacturing, (2) Construction, (3) Transportation, and (4) Communication. Please refer to the appropriate system course in identifying equipment for the synthesis course(s) offered.		

MARKETING EDUCATION

The equipment and supplies listing shows the absolute minimum of equipment and supplies needed to teach effectively a marketing education course. Because the marketing functions and marketing principles are the core of instruction in all marketing education courses, an extensive amount of equipment and supplies is not needed.

Critical to helping students effectively achieve the course competencies are instructional materials which allow the teacher-coordinator to individualize instruction based on the student's career objective, the placement for on-the-job training and the student's academic abilities. This should be kept in mind when budgeting for the program.

Because each marketing education course is designed to provide students with salable skills, funds for equipment maintenance are essential. Instructional equipment such as the cash register and computer will need maintenance to ensure proper performance. This should be a part of the program budget.

When the marketing education teacher-coordinator has responsibility for placing students in the community, quality printing is vital to positive public relations. Calling cards, training agreements, training plans and evaluation forms should be of a quality that represents the school system well. (Hard-to-read purple ditto turns supporters off.) The marketing education program budget should include funds for these printing needs.

The following lists will help in planning for your marketing education efforts. The teacher-coordinators will have specific needs not reflected in these listings because of the methodologies they choose to use in helping their students master the course competencies.

A review of the specific curriculum guide for each course will serve as a source of ideas for the types of equipment, supplies and instructional materials needed.

*Optional equipment and supply items are denoted by an asterisk.

MARKETING EDUCATION
Equipment List

Advertising Design & Sales Promotion; Advertising & Sales Promotion; Business Management; Fashion Merchandising; Fashion Merchandising & Management; Hotel/Motel Management; Marketing; Marketing & Merchandising; Principles of Business; Sales Fundamentals; Small Business/Entrepreneurship; Tourism Marketing

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Individual trapezoidal student tables, or 1 larger trapezoidal table per 2 students		1:1 or 1:2
Suitable chairs for students to match tables		1:1
Rectangular or oval work and conference type table	1	
Display unit	1	
Magazine-periodical displayer	1	
Bookshelves	Adequate to house instructional materials	
Storage cabinet for student projects (tote trays) or built-in storage		1 tray per student
Filing cabinets, letter size with locks, (total of 12 drawers needed)	3	
Microcomputer with 2 disk drives and printer with stand	1	
Computer table	1	
Telephone	1 per office	
* Wrap counter	1	
* Three-way mirror (approx. 20 x 72 x 47)	1	
* Mannequin(s) & Mannequin forms	The no. & type to be determined by each program	
* Sign holders	The no. & type to be determined by each program	

*Optional

MARKETING EDUCATION
Equipment List

Advertising Design & Sales Promotion; Advertising & Sales Promotion; Business Management; Fashions Merchandising; Fashion Merchandising & Management; Hotel/Motel Management; Marketing; Marketing & Merchandising; Principles of Business; Sales Fundamentals; Small Business/Entrepreneurship; Tourism Marketing

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
* Calculator	1	
* Display Props	The no. & type to be determined by each program	
* Cash register, programmable, electronic type or scanning wand & cash drawer for the microcomputer.	1	
* Credit card imprinter	1	
* Video camera	1	
* Video tape player & TV	1	
* Camera for prints & slides	1	
* Time clock	1	
* Hand held price marker	1	
* Sign making machine	1	
* Paper storage cabinet on casters or built-on storage for large posters and advertisements	1	

186

*Optional

MARKETING EDUCATION
Supply List

Advertising Design & Sales Promotion; Advertising & Sales Promotion; Business Management; Fashion Merchandising; Fashion Merchandising & Management; Hotel/Motel Management; Marketing; Marketing & Merchandising; Principles of Business; Sales Fundamentals; Small Business/Entrepreneurship; Tourism Marketing

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Student scissors	2 doz.	
Magic markers	2 doz.	
Colored pencils	2 doz.	
Replacement bulbs for equipment	As needed	
Rulers	2 doz. 12"	
Software (see course guides for specifics)		
Diskette file	1	
Diskettes	As needed	
Printer Paper tray	1	
* Seasonal display kits	1 per season	
* Display merchandise	Set per mannequin	
	Set per display units	
* Sign press replacement supply kit	1 per year	
* Paint brushes		
* Video cassettes	10	1:1
* Film for camera	10 rolls/ 24 slides	
	10 rolls/ 24 prints	
* Foam core board	15 sheets (3' x 4')	
* 3 ring hole punch	1	
* Paper cutter	1	
Approximately $10 per student is needed to purchase consumable items such as file folders & labels, tempra paint, construction paper, computer supplies time cards, cash register tape, duplicating masters, duplicating paper, glue, tape, pricing tickets, poster board, transparency film.		

187

*Optional

PRINCIPLES OF TECHNOLOGY

The list of the minimum equipment and supplies needed for conducting an effective Principles of Technology course is provided for each level of instruction. It is emphasized that this list contains minimum requirements. Non-essential equipment and supplies that would enhance the quality of instruction are denoted by an asterisk.

For additional information and/or assistance contact the Principles of Technology consultant, Division of Vocational Education.

PRINCIPLES OF TECHNOLOGY
Equipment List

Principles of Technology I & II

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Heavy Duty Support Stand ½" galvanized pipe, 6' tall x 36" wide, with force beam		1:4
Spring Holder Jig – heavy duty acrylic, includes dowel rod and heavy duty spring rated 5 lbs. per one inch extension: maximum 15 lbs.		1:4
U-Tube Manometer w/dye		1:4
Manual Vacuum/Pressure Pump		1:4
Air Chamber Assembly – constructed with schedule 40 PVC with industrial grade fittings and tubing barbs		1:1
Accumulator 1¼" I.D. clear tubing w/1¼" ends and ½" male pipe connection		1:4
Analog Meter with Universal Leads		1:4
Digital Multimeter		1:4
Hot Plate		1:4
Support Stand Set Up – to include the following: 2 Bases, 1 Clamp Base, 2 thread rods ½ x 36", 1 threaded rod ½ x 24", 2 right angle clamps, 1 adjustable angle clamp, 4 unthreaded rods ½" x 24" 1 three finger clamp		1:4
Thermocouple Set	1	
Aspirator Bottle	1	
Flow Indicator	1	
Thermal Bar	1	
Winch Assembly		1:4
Large Pneumatic Cylinder		1:4
Water Pump		1:4
Power Supply, AC/DC		1:4
Electric Motor Assembly 1/16 H.P., 12 VDC 8 amp motor, 3/8" output shaft, stand made of 3/4" plywood		1:4
Solenoid Assembly – solenoid w/2 binding posts and prewired on heavy duty acrylic stand		1:4
Conveyer Belt Assembly – includes, 3/4" Formica covered plywood construction		1:4
Triple Beam Balance	3	
Stroboscope		1:4
Water Channel Assembly		1:4
Air Storage Tank		1:4
Anemometor		1:4
Solar Cell Panels		1:2
Flood Lamp Assembly with bulb		1:4
Photometer		1:4

PRINCIPLES OF TECHNOLOGY
Equipment List

Principles of Technology I and II – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Parabolic Reflector		1:4
Thermoelectric Generator Set		1:4
Laser, He-Ne		1:4
Miniature Flourescent Light Source with batteries		1:4
Steam Engine		1:4
AC Wattmeter		1:4
Load Cell Assembly		1:4
LVDT w/Accessory Rod		1:4
Pressure Manifold Assembly		1:4
Differential Pressure Cell		1:4
Liquid Flow Orifice Assembly		1:4
Bimetallic Strip Assembly		1:4
Solid State Temperature Sensor		1:4
HV Power Supply		1:4
Particle Radiation Demo	1	
Lazy Susan Optics Table		1:4
Color Filter Set		1:4
Lens Set – to include positive long FL, positive short FL, negative, cylindrical		1:4
Fiber Optics Set		1:4
VHS Videocassette Player	1	
Television Set, color	1	
Mobile TV Cart	1	
Laboratory Work Stations		1:1
Air Pressure Regulator – regulator mounted to heavy duty acrylic stand		1:4
Collection Column Apparatus		1:4
Orifice Set Up – includes tubing, 3 teflon tees, clamps, and orifice assembly		1:4
Oscilloscope – 20 MHZ, Dual Trace		1:4
Function Generator – 2 MHZ; Sine, Square, Triangle		1:4
Dewar Flask		1:4
Heat Transfer Assembly		1:4
Large and Small Friction Plate		1:4
Air Flow Assembly – Plexiglass tube 24" x 2"		1:4
Air Source Shop Vacuum with Hose		1:4
Thermal Pipe Assembly		1:4
Flow Shroud	1	
Slant Tube Manometer	1	
Chimney Assembly	1	
Spring Test Apparatus – includes spring; completely unitized for easy inventory control and measurements		1:4

190

PRINCIPLES OF TECHNOLOGY
Equipment List

Principles of Technology I and II – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Flywheel Apparatus – heavy cast 8" diameter, flywheel, 5/8" bearing and shaft; includes friction assembly		1:4
Air Motor with Stirring Attachment		1:4
Hydraulic Flow and Shock Assembly		1:4
Strip Chart Recorder	1	
Rotameter		1:4
Pipe Assembly	1	
Kilowatt/Hour Assembly		1:8
Motor/Generator Set		1:8
Come-A-Long Winch		1:4
Pipe-Vise Assembly		1:4
Spur Gears with Shaft		1:4
Gear Train Assembly		1:4
Belt Drive Assembly		1:4
Hydraulic Jack with 5000 lb. pressure gauge		1:4
Pressure Stage		1:4
Small Pneumatic Cylinder – includes barbs		1:4
Transformer Assembly and magnet wire		1:4
Impulse Measuring Assembly		1:4
Moment of Interia		1:4
Fluid Momentum Assembly		1:4
Mechanical Shock-Assembly		1:4
Vibration Transducer with BNC cables and battery pack		1:2
Speaker and Audio Transformer		1:4
Resonance Tube		1:4
Wind Generator Assembly		1:4

PRINCIPLES OF TECHNOLOGY
Supply List

Principles of Technology I and II

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Spring Balance - 0-25 lbs.	12	
Container – 1 gal. w/lid		1:4
Chain & Cord		1:4
Key Chain Ring		1:4
Ruler, 12 pk.	1	
Protractor		1:4
Caliper, Vernier		1:4
Caliper, Bow		1:4
Large Weight Hanger		1:4
Large Slotted Weight Set – 1-5 Kg., 2-1 Kg., and 1-0.5 Kg.		1:4
C-Clamps – two small one large	12	
Hydrometer, scaled		1:4
Hydrometer, pocket		1:1
Beaker, 600 M1		1:1
Tubing – 2-4 ft., Sections of ¼", 2-4 ft., Sections of ½", 1-3 ft., Section of 3/8"		1:4
Pressure Gauge – Compound type		1:2
Battery, Dry cell 6-volt	12	
Battery, Transistor		1:4
Battery, Wet Cell	1	
Switch, SPST		1:2
Miniature Lamp Bases		1:2
Miniature Lamps		1:2
Scaled Thermometer		1:2
Blank Thermometer		1:2
Thermometer Clamp	1	
Suction Cups	1	
Socket Fixture	1	
Torque Wrench	1	
Thermal Crayon – 69, 83, 101 degrees	1	
Paraffin	1	
Insulator Squares	12	
Single Sheave Pulley		1:2
Double Sheave Pulley		1:2
Triple Tandem Pulley		1:4
Stepped Pulley w/axle		1:4
Single Sheave Pulley Heavy Duty		1:4
Pulley Cord		1:4
Spring Balance Set		1:4
Monofilament		1:4

PRINCIPLES OF TECHNOLOGY
Supply List

Principles of Technology I and II – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Small Capacity Slotted Weighs		1:4
Weight Hanger - 50g		1:2
Meter Stick		1:4
Weight Stage		1:4
Hoses, for water pump		1:4
Beaker, 1000 M1		1:2
Large Capacity Containers		1:4
Stopwatch		1:4
Switch, SPST, pushbotton		1:4
Water Bath		1:4
Tubing Clamps – four stainless and one stepped		1:4
Switch, DPDT, knife		1:4
Containers – 3-1 lb. cans; 2-3 lb. cans		1:4
Toy Car w/batteries	1	
Duct Tape		1:4
Valves		1:4
Garden Hose Set	1	
Restrictor Plates		1:4
Filter Sections		1:4
Solderless Breadboard		1:4
Fixed Resistor Assortment		1:4
Wire Segments	1	
Funnel, 12 pk	1	
Weighted Blocks	1	
Resistance Board	1	
Specific Heat Sample Kit		1:4
Tongs		1:4
Styrofoam Board	1	
Capacitor	1	
Pipe Tees with Taps		1:2
Microphone		1:4
Capacitor Set		1:4
Thermistor		1:4
PRT		1:4
Spectrum Tube, Helium		1:4
Spectrum Tube, Hydrogen		1:4
Spectrum Tube, Mercury		1:4
Spectrum Tube, Neon		1:4
Spectrum Tube, Nitrogen		1:4
Student Spectroscope		1:4

TRADE & INDUSTRIAL EDUCATION

The following equipment and supplies lists indicate the minimum required to teach effectively a Trade & Industrial Education course. A total skill development curriculum requires that specific equipment and supplies be available which reflect course competencies utilized in guiding the learner through the process of skill mastery. This allows the student the development in cognitive and affective areas as well as basic psychomotor within the Trade and Industrial Education courses.

The following equipment and supplies lists will help in planning your Trade and Industrial Education courses. The instructor may have specific needs not reflected in these listings due to specific employment needs of a geographic region.

Equipment and supplies list for the following programs in Trade and Industrial Education.

CONSTRUCTION

Masonry
Carpentry
Electrical Trades
Mechanical Systems Technology

TRANSPORTATION

Auto Body Repair
Automotive Technology

MANUFACTURING

Furniture/Cabinetmaking
Electronics
Textiles
Welding
Industrial Maintenance
Metals Manufacturing Technology

COMMUNICATION

Technical Drafting
Graphics & Industrial Communications

PUBLIC & PRIVATE SERVICES

Industrial Cooperative Training
Cosmetology

Optional equipment and supplies are denoted by an asterisk.

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Auto Body Repair

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Anvil, Blacksmith	1	
Files, Set	1	
Handles, File Set	1	
Hoist, Winch, Lift-Pull	2	
Gas Welding and Cutting Outfit	1	
Truck, Cylinder, Welding	1	
Welder, Electric Arc, AC	1	
Bench, Gas and Arc Welding	1	
Wrench, Impact, Pneumatic, ⅜″ Square Drive	2	
Wrench, Impact, Pneumatic, ½″ Square Drive	2	
Wrench, Impact, Pneumatic, ¼″ Square Drive	2	
Power Chisel, Pneumatic, Set, Accessories	1	
Sander, Right Angle, Electric	4	
Polisher, Right Angle, Electric	2	
Buffer, Right Angle, Pneumatic	2	
Sander, Orbital-Action, Pneumatic	4	
Sander, Dual-Action, Pneumatic	4	
Sander/Filer, Straight Line	4	
Trimmer, Abrasive Disc	1	
Shaker, Paint, Two-Can	1	
Masker, Stand, Portable	2	
Respirator, Paint Spray	8	
Paint Spray, Gun, Standard Duty	3	
Paint Spray Gun, Touch-up	1	
Regulator, Air	6	
Paint Spray Booth, Automotive	1	
Air Compressor, Air Cooled	1	
Cabinet, Paint Storage	1	
Cabinet, Drum Storage, Vertical	1	
Cabinet, Sterilizer, Safety Glasses	1	
Safety Glasses		1:1
Safety Goggles	15	

195

TRADE AND INDUSTRIAL EDUCATION
Supply List

Auto Body Repair

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Clamp, Sheet Metal	6	
Tape, Steel, Measuring, 10′	2	
Blocks, Rubber, Sanding	10	
Bar, Wrecking, 48″	2	
Mallet, Rubber, 20 oz.	4	
Snips, Sheet Metal	6	
Brush, Wire	6	
Knife, Windshield, Hot	2	
Hammer, Sledge 12 lb.	1	
Sander/Grinder, Air 5″	4	
Remover, Window and Door Handle	2	
Aligner, Door	2	
Hammer, Sledge 5 lb.	1	
Shears, Sheet Metal, Air	2	
Sander, Hand, Filer	8	
Tool, Windshield (Ford)	2	
Tool, Windshield (GM)	2	
Reels, Retractable, Electric	4	
Clamp, Welding	8	
Gloves, Welding	4	
Helmet, Welding	4	
Goggles, Welding	4	
Blow Gun, Air	4	
Air Hose Assembly, Oil Resistant	8	
Hose Connectors, Quick Detachable	2	
Valve, Adjusting, Air Flow	8	
Approximately $15 per student is needed to purchase consumable items such as: sandpaper, thinner, bondo, etc.		

196

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Automotive Service Technology

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Air Conditioner Service Center	1	
Analyzer, Engine (Diagnostic-Computer Capability)	1	
Anvil, Blacksmith & Stand	1	
Balancer, Wheel, Electronic	1	
Balancer, Wheel, Spin On-Car	1	
Bench, Work	8	
Bleeder, Hydraulic Brakes	1	
Blow Gun, Rubber Tip (OSHA Approved)	4	
Brake Shop, Portable	1	
Brake Spoon	4	
Brake Spring Installer	2	
Cabinet, Sterilized, Safety Glasses	1	
Cabinet, Storage, Flammable Liquids	1	
Cabinet, Tool, Roll Around	1	
Cabinet, Valve Refacer	1	
Cables, Battery Booster	2	
Calipers, Dial	1	
Can, Safety, Flammable Liquids	2	
Carrier, Battery	2	
Charger, Battery	1	
Chisel, Air Operated	1	
Chisels, Cold (5 in set)	2	
Clamps, Standard "C"	6	
Clamp, Welding	1	
Cleaner, Piston Groove	1	
Cleaner, Tester, Spark Plug	1	
Cleaner, Steam	1	
Cleaner, Vacuum	1	
Compressor, Piston Ring	1	
Compressor, Valve Spring	1	
Compressor, Valve Spring (Air Operated)	1	
Crane, Shop, Portable, 2 ton	1	
Creeper, Standard	4	
Cutter, Bolt	1	
Dial Indicator Set	1	
Dispenser, Canned Oil	2	
Dispenser, Gear Lubricant	1	
Dresser, Grinding Wheel	1	

197

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Automotive Service Technology – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Drill, Bits, Sets	2	
Drill, Electric, 3/8″	2	
Drill, Electric 1/2″	1	
Drill, Press, Floor Type 15″	1	
Drivers, Bushing, Cam	1	
Drivers, Nut (7 in set)	2	
Extractors, Screw	2	
Files, (8 to set)	1	
Filler, Battery	1	
Filler, Radiator, 3 gallon	2	
Gauge, Belt Tension	1	
Gauge, Oil Pressure	2	
Gauge, Brake Shoe/Drum Caliper	1	
Gauge, Brake Rotor	1	
Gauge, Telescopic	1	
Gauge, Tire Pressure	2	
Gauge, Vacuum/Pressure	1	
Grinder, Bench	2	
Grinder, Brake Drum	1	
Grinder, "Safe Swirl", Disc Rotor	1	
Grinder, Pedestal 8″	1	
Gun, Grease, Hand Operated	1	
Gun, Soldering	1	
Hammers, Ball Peen (6 to set)	2	
Handle, File (10 to set)	1	
Helmet, Welding	1	
Hydrometer	3	
Jack, Bumper, Air Operated	1	
Jack, Hydraulic, Floor, 2 ton	1	
Jack, Hydraulic, Floor, 4 ton	1	
Jack, Transmission, Hydraulic	1	
Kit, Tubing Cutting & Flaring	1	
Letters, Steel (28 pcs.)	1	
Lift, Hydraulic	1	
Light, Timing, Inductive Pickup	2	
Lubrigun, Chassis, Air Operated	1	
Micrometers, Inside	1	
Micrometers, Outside (4 in set)	1	

198

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Automotive Service Technology – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Stand, Small Engine	4	
Stool, Mechanic's Work	4	
Tap & Die Sets, Standard & Metric	1	
Tester, Armature	1	
Tester, Compression	1	
Tester, Continuity	1	
Tester, Cooling System	3	
Tester, Distributor	1	
Tester, Headlight Portable (adjuster/AIMER)	1	
Tester, Radiator Pressure	1	
Tester, Starting and Charging Systems, Heavy Duty, Portable	1	
Tester, Tach./Dwell Meter	1	
Tester, Thermostat	1	
Tester, Valve Spring Pressure	1	
Tester, Volt-Ampere	3	
Tool Chest, Top, 6 Drawer Minimum	1	
Tool, Drag Link & Shock	1	
Tire Mounting Machine	1	
Transmission Holding Fixtures	2	
Transmission Special Tool Sets	1	
Truck, Cylinder Welding	1	
Truck, Hand	1	
Vacuum Collection System, Brakes, Asbestos	1	
Valve, Surface Grinder	1	
Vice, Machinist 5″	4	
Voltmeter, Electronic, Digital	1	
Washer, Parts	1	
Welder, Arc AC/DC, 250 Amp	1	
Welder, Oxy-Acetylene	1	
Wheel Alignment Instrumentative	1	
Wheel Alignment Turntables	2	
Wheel Alignment Tool Set	1	
Wire Brush, Wheel	2	
Wrench, Air Impact, 3/8″ Drive with Sockets Standard and Metric	1	
Wrench, Air Impact with Sockets 1/2″ Drive	1	
Wrenches, Allen Metric (15 to a set)	2	
Wrenches, Allen Standard (11 to a set)	2	
Wrench Sets, Combination, Long (3/8″ - 1½″)	2	

189

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Automotive Service Technology – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Mirror, Inspection	2	
Numbers, Steel (9 pcs.)	1	
Oiler, Pump	4	
Packer, Wheel Bearing	2	
Pan, Drain, Mobile	1	
Pliers, Brake Spring 7¼" Long	2	
Pliers, Snap Ring	2	
Pliers, Wheel Weight	1	
Press, Arbor, Hand Hydraulic, 25 ton	1	
Pry Bar, Pitman Arm	1	
Puller, Battery Terminal Clamp	1	
Puller, Disc Brake Piston	1	
Puller, 2 & 3 Point	1	
Puller, Rear Axle & Bearing	1	
Puller, Sets, Assorted	1	
Puller Set, Gear, Engine	1	
Pump, Rotary Hand	1	
Punch Sets, (5 in set)	1	
Reamer, Cylinder Ridge	1	
Refacer, Valve Deluxe Series	1	
Sander, Disc, Portable, Electric	1	
Screw Driver Set, Clutch Head, 3/16" to 3/8"	1	
Screwdrivers, Offset (4 to set)	1	
Screwdrivers, Phillips (10 in set)	1	
Screwdrivers, Standard (10 in set)	1	
Sockets, Deep Well 1/2" Drive Set	1	
Socket Sets, 1/4" Drive, Metric	2	
Socket Sets, 1/4" Drive, Standard	3	
Socket Sets, 3/8" Drive, Metric	2	
Socket Sets, 3/8" Drive, Standard	3	
Socket Sets, 1/2" Drive, Metric	1	
Socket Sets, 1/2" Drive, Standard	2	
Spark Plug Wire, Remover, Insulated	1	
Spreader, Clamp, Battery	1	
Spreader, Piston Ring	1	
Stand, Axle, Safety, 2 ton	4	
Stand, Axle, Safety, 5 ton	4	
Stand, Engine Test	2	
Stand, Engine, Universal	2	

200

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Automotive Service Technology – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Wrench Sets, Combination, Short (5/16″ - 3/4″)	2	
Wrenches, Ignition Standard and Metric (14 to set)	1	
Wrench, Impact Electric	1	
Wrenches, Flare Nut, (3 to set)	1	
Wrench, Oil Filter 3/8″ Drive	2	
Wrench, Torque 1/4″ Drive	2	
Wrench, Torque 3/8″ Drive	2	
Wrench, Torque 1/2″ Drive	2	
Wrench Set, Boxed End, 3/8″ - 1⅛″	2	
Wrench Set, Combination, Metric	2	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Automotive Service Technology

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Bar, Pinch & Lining 16"	1	
Bar, Wrecking 24"	1	
Brush, Carbon Removing	4	
Brush, Parts Cleaning	10	
Brush, Wire	4	
Cord, Extension	6	
Cover, Fender	6	
Gauges, Spark Plug Gap	4	
Gauge, Thickness	4	
Glasses, Safety		1:1
Goggles, Safety		1:1
Hacksaw, Adjustable	4	
Hammer, Chipping	1	
Handshield, Welding	1	
Hone, Cylinder, Standard	1	
Hone, Cylinder, Small	1	
Hose, Water 5/8" (Garden)	1	
Knife, Putty	6	
Light, Extension	6	
Mallet, Rubber 20 oz.	1	
Pan, Drain, 18 qt.	3	
Pliers, Combination 6"	6	
Pliers, Hose Clamp	2	
Pliers, Locking Grip	6	
Pliers, Needle Nose 5"	2	
Pliers, Side Cutting 7"	2	
Pliers, Slip Joint	2	
Rule, Steel 2"	2	
Scraper, Carbon	2	
Shield, Face, Plastic	6	
Snips, Duckbill	1	
Spout, Oil	2	
Square, Combination 12"	1	
Starter, Screw	2	
Switch, Remote Starter	2	
Taps, Spark Plug	1	
Tape, Steel Rule 10"	2	
Terminal Cleaners, Battery	2	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Automotive Service Technology – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Tool, Magnetic Pick-up	2	
Tool, Tire Valve Core Remover	2	
Wrenches, Adjustable 6″	2	
Wrench, Adjustable 10″	2	
Wrenches, Distributor	1	
Wrenches, Pipe (8″ and 12″)	2	

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Carpentry

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Planer, Surface 18″	1	
Jointer, 8″	1	
Table Saw, 10″	1	
Band Saw, 20″	1	
Radial Arm Saw, 12″	1	
Power Miter Box, 10″	1	
Shaper, Wood	1	
Drill Press, 15″	1	
Circular Saw, Portable	2	
Router, Portable w/Bits	1	
Sander, Portable Belt	2	
Sander, Portable Finishing	2	
Jig Saw or Saber Saw, Portable	1	
Drill, 3/8″ Variable Speed, Portable	1	
Drill, 1/2″ Reversable, Portable	1	
Tool Grinder, 6″ w/Stand	1	
Workbench, 4 Station, w/vises	4	
Cabinet, Metal Flame Proof	1	
Level, Transit, w/tripod	1	
Ladder, Step, 6″	2	
Ladder, Extension, 20′	1	
Scaffolding, Complete w/Frames, Braces, Planks)	4	
Wheel Barrow, (5 Cu. Ft.)	1	
Cabinet, Safety w/Glasses/Goggles	1	
Drill Bit Set, High Speed, 1/16″-1/2″	1	
Drill Bit Set, Speed Bore, 1/4″-1″	1	
Bit Set, Auger, 1/8″-1″	1	
Screwdriver Set, Standard		1:8
Screwdriver Set, Phillips		1:8
Wrench Set, Combination 3/8″-1″	1	
Socket Wrench Set, 3/8″-3/4″	1	
Wrench Set, Allen	1	
Blade Set, Circular Saw	1	
Reciprocating Saw, Portable	1	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Carpentry

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Waste Can, Oily	1	
Hard Hats		1:1
T-Square, Drywall	2	
Trowel, Drywall Finishing		1:4
Knife, Putty, Drywall Finishing		1:4
Mandrell, Drywall		1:4
Knife, Drywall Retractor		1:4
Saw, Drywall		1:4
Hammer, Claw 16 oz.		1:2
Level, 36″ or 48″		1:8
Level, 24″	1	
Level, Torpedo	1	
Square, Combination		1:4
Rule, 6′ Folding		1:4
Tape, 25′ Retractable		1:4
Tape, 100′	1	
Saw, Hand, Rip		1:8
Saw, Hand, Crosscut		1:4
Saw, Compass		1:8
Saw, Coping		1:4
Awl, Scratch		1:8
Chisel, 1/4″		1:8
Chisel, 1/2″		1:8
Chisel, 3/4″		1:8
Plane, Block		1:4
Plane, Jack		1:4
Plane, Smooth		1:8
Brace		1:4
Shovel, Round		1:8
Drywall Stirrer	1	
Post Hole Digger	1	
Pick, Axe	1	
Axe	1	
Maul, 8 lbs.	1	
Hatchet, Half	1	
Square, Rafter		1:4
Snips, Aviator LH	1	
Snips, Aviator RH	1	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Carpentry – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Shears, Metal, Straight	1	
Block, Hand Sanding		1:4
Rasp, Wood		1:8
Bastard File, Half Round (10″-12″)		1:4
File, Flat Mill (10″-12″)		1:8
Bastard File, Round (8″-10″)		1:8
Extension Cord, Power 50′ w/Ground		1:8
Gauge, Marking (Single Beam)		1:8
Knife, Putty, 1″		1:8
Puller, Nail	1	
Bar, Wrecking		1:8
Chalk Line		1:4
Plumb Bob	1	
Trammel Points	1	
Nail Sets (1/32, 2/32, 3/32)		1:4
Saw, Hack	1	
Pliers, Slip Joint	1	
Pliers, Arc Joint	1	
Pliers, Diagonal Cutting	1	
Clamps, Cabinet – 4′	4	
Clamps, Cabinet – 6′	2	
Clamps, Wood Screw	4	
Clamps, C	4	
Brush, Wire	1	
Broom 24″	4	
Brush, Bench		1:4
T-Bevel	2	
End Cutting Nippers	1	
Approximately $15 per student is needed to purchase consumable items such as: nails, building materials, paper, etc.		

206

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Cosmetology

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Station, Styling	20	
Section, Shampoo	4	
Bowl, Shampoo	6	
Desk, Reception	1	
Stool, Reception Desk	1	
Chair, Styling, Hydraulic	20	
Chair, Drying, with Hair Dryer	18	
Chair, Utility, Hydraulic	4	
Chair, General Purpose	20	
Table, Manicure	4	
Mannequin	20	
Mannequin, Afro	20	
System, Hair Spray	1	
System, Hair Shampoo	1	
Washer, Clothes, Automatic	1	
Dryer, Clothes, Automatic	1	
Roll-Tray	20	
Hot Comb	5	
Chair, Booster	2	
Receptacle, Waste	4	
Cabinet, Storage	2	
Microscope	1	
Ph analyzer, Electronic	1	
Trechogram, Digital	1	
Reflectrometer	1	
Stool, manicure	4	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Cosmetology

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Dryer, Styling, Hand	10	
Iron, Curling	10	
Clipper, Hair, Electric	6	
Vibrator, Hand, Electric	4	
Sanitizer, Wet & Dry	1	
Comb, Pressing	10	
Heater, Iron, Electric	10	
Jar, Sanitizer, 32 oz.	20	
Jar, Sanitizer, 4-8 oz.	4	
Mirror, Hand, Filigree	20	
Cap, Heat	4	
Cap, Frosting	6	
Block, Wig, Work	10	
Bowl, Manicuring, Finger	4	
Kit, Manicure, Professional	4	
Towels	144	
Gloves, Rubber	1	
Timer, Long Ring	4	
Spatula	1	
Bottle, Applicator	4	
Brush, Wig, Steel Bristles	12	
Brush, Half Round (or semi flare or vent)	12	
Brush, Ball Tip Bristles	24	
Comb, Flay Back Styling	4	
Cape, Shampoo	1	
Cape, Unisex Shampoo	12	
Capes, Comb-out	120	
Cups, Drip	120	
Rod, Cold Wave	10 Gr.	
Kit, Student	40	
Approximately $15 per student is needed to purchase consumable items such as: Shampoo, Rinses, Perms, Paper ends, etc.		

208

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Electrical Trades

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Workbench, 4 Station Electrical	4	
Cabinet w/Safety Glasses/Goggles	1	
* Trainer/Experimenter, Electrical Test	1:2	
* Power Supply AC/DC		1:2
Volt/Ohm Meter		1:2
Amp Meter (Inductance)	1	
Amp Meter (In-Line)		1:4
Meter, Continuity	1	
Drill, Variable Speed Portable, 3/8″	1	
Drill, Reversable Portable, 1/2″	1	
Ladder, Step 6′ (Type I-Fiberglass)	2	
Ladder, Extension 16′ (Type I-Fiberglass)	1	
Pipe Treader w/Handle (1/2″, 3/4″, 1″, 1/4″, 1½″)	1	
Pipe Treader, adjustable (1″-2½″)	1	
Pipe Vise w/Stand	1	
Knockout Set, Hydraulic (1/2″-2″)	1	
Cutter, Pipe (1/8″-2″)	1	
Reamer, Pipe, Ratchet	1	
* Pipe Treader, Power Complete (1/2″-2″)	1	
Bits, Spur, Set (7/8″-2″) 1/2″ Shank	1	
Chisel, Wood, Set (1/4″-1″)	1	
Drill Bit Set, High Speed, (1/16″-1/2″)	1	
Drill Bit Set, Auger, (1/4″-1″)	1	
Screwdriver Set, Standard	1	
Screwdriver Set, Phillips	1	
Wrench Set, Combination (3/8″-1″)	1	
Wrench Set, Socket, 3/8″ Drive (3/8″-1″)	1	
Wrench Set, Hex	1	
Chisel Set, Cold	1	

203

*Optional items are denoted by an asterisk.

TRADE AND INDUSTRIAL EDUCATION
Supply List

Electrical Trades

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Waste Can, Oily	1	
Hard Hats		1:1
Hammer, Claw, 16 oz.		1:2
Level, 24″	1	
Level, Torpedo	1	
Square, Combination	1	
Rule, 6′ Folding (or retractable tape)		1:4
Tape, 25′ Retractable		1:8
Tape, 100′	1	
Saw, Compass	4	
Saw, Keyhole	2	
Awl, Scratch	4	
Brace, Hand	2	
Shovel, Round	1	
Maul, 8 lbs.	1	
Snips, Aviator, LH	1	
Snips, Aviator, RH	1	
Shears, Metal, Straight	1	
File, Flat Mill (10″-12″) each	1	
Extension Cord, Power 50′ w/Ground	2	
Saw, Hack		1:4
Pliers, Slip Joint		1:2
Pliers, Arc		1:2
Pliers, Linesman, 7″		1:2
Pliers, Diagonal Cutting, 5″		1:2
Pliers, Long Nose Side Cutting, 6″		1:2
Screwdriver, Standard 5/16″ x 6″		1:2
Screwdriver, Standard 1/4″ x 4″		1:2
Screwdriver, Phillips, #2		1:2
Wire Stripper, 4″		1:2
Punch, Center	2	
Chisel, Cold 1¼″ x 12″	2	
Torch, Propane	4	
Approximately $15 per student is needed to purchase consumable items such as: wire, connectors, electrical boxes, etc.		

210

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Electronics

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Work/Test Bench		1:2
Oscilloscopes		1:3
Power Supply, Variable		1:2
Signal Generators		1:3
Digital Multimeter		1:3
Analog Meter		1:4
Z Meter	1	
Probe, High Voltage	1	
Logic Probe		1:4
AC/DC Fundamentals Trainer		1:3
RF Communications Trainer		1:3
AF Communications Trainer		1:3
Digital Techniques Trainer		1:4
Microprocessor Trainer		1:4
Computer	1	
Cabinet, Safety Glasses Storage	1	
Soldering Stations, or Irons		1:2
Electric Drill - ⅜″	1	
Fire Extinguisher	1	
Inter Active Video System (Optional)	2	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Electronics

Supply Item	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Safety Glasses		1:1
Solder, 1 lb. Roll	10	
Braids, Desoldering	20	
Desoldering Tool		1:2
IC Tool Set		1:4
Alcohol, Bottles	5	
Flux, Bottles	3	
Components, Assorted Types		1:1
Connectors, Solderless Assorted Types		1:1
Spray, Freeze	5	
Spray, Tuner	5	
Strips, Terminal	40	
Wire, Rolls (Assorted Gauges)	4	
Tape, Electrical	10	
Batteries, Assorted Sizes		1:1
Magnets		1:2
Drill Bits-Assorted	1 set	
Nuts Driver	4 sets	
Adjustable Wrenches		1:4
Allen Wrenches		1:4
Diagonal Cutters	4 sets	
Needle Nose Pliers	4 sets	
Hacksaw	1	
Wire Strippers		1:2
Screwdriver (Assorted)	4 sets	
First Aid Kit		
Approximately $35 per student is needed to purchase consumable items such as: components, batteries, etc.		

212

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Graphics

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Vertical Camera w/integrator	1	
Halftone Computer	1	
Temp. Control Sink	1	
Enlarger (black and white)	2	
Enlarger (color)	1	
Timer (Digital)	1	
Timer (mechanical) Lab 60 sec.	1	
Timer (mechanical) Lab 70 min.	1	
Typesetter & Processor	1	
Drawing Tables	3	
Waxer	2	
Light Tables (small)	1	
Light Tables (med.)	1	
Plate Burner (carbon arc)	1	
Plate Burner (lamps)	1	
Duplicator/Offset press	1	
Duplicator/Offset press	1	
Paper Cutter	1	
Collator	1	
Composer	1	
Copier	1	
PMI Processor auto feed	1	
MCS Typesetter w/processor	1	
Computer	1	
Temperature Control Sink	1	
Densitometer	1	
Stools for Lab	16	
Cabinets, Storage	2	
Sink, Platemaking	1	
Duplicator w/Color Head	1	
Duplicator	1	
Press, 19 x 26	1	
Folder, Right Angle (support larger press)	1	
Shade, Lens for Process Camera	1	
Frame, Contact Printing Vacuum	1	
Burner, Plate - 23 x 27 (support for larger press)	1	
Printer, Four Station Screen	1	
Booth, Cleaning w/Spray Gun for Screens	1	

213

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Graphics – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Stretcher, Fabric	1	
Printer, Bottle	1	
Platemaker, Electrostatic	1	
Copier	1	
Machine, Shrink Wrap	1	
Wagon, Padding	1	
Feeder, Envelope	1	
Color Head, Offset Press	1	
Cabinet, Safety for Flammables	1	
Cabinet, Storage for Flat Materials	1	
Press, Padding	1	
Tunnel, Heat	1	
Folder, Table Top	1	
Cameras, 35MM	4	
Cameras, 2¼ x 2¼	2	
Flash, Electronic	1	
Flash, Electronic (Stuido) 2 power paks surplus	2	
Cameras, View 4 x 5 (surplus)	2	
Camera (surplus)	1	
Tri-Pod	1	

214

TRADE AND INDUSTRIAL EDUCATION
Supply List

Graphics

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
T-Square	10	
Triangle	10	
Centering Rule	10	
Gauge, Line	10	
Knife	5	
Scales, Copy	5	
Guides, Sensitivity	5	
Marks, Register	5	
Copy Guide, Transparent	2	
Gopy Guide, Reflection	2	
Instruments, Layout	10	
Magnifiers	5	
Plates, Litho	10	
Approximately $15 per student is needed to purchase consumable items such as: paper, ink, plates, etc.		

215

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Industrial Cooperative Training

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Table, All Purpose	2	
Cabinet, Storage (tote tray)	1	
Magazine Unit 10 Shelves	1	
Bookcase, 48 x 36 x 10	1	
Telephone (private, convenient access)	1	
Five Drawer Legal Size File Cabinet, Lockable	2	
Carrel, Study, Double Side by Side	1	
Stationary Single-Faced Magazine Display Stand	1	
Calculator, Combination Display/Printer	1	
Book Rack, Wood, 19"	1	
Cabinet, Storage, 43 x 24 x 78 w/lock	1	

216

TRADE AND INDUSTRIAL EDUCATION
Supply List

Industrial Cooperative Training

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
None: Approximately $15 per student is needed to purchase consumable items such as: technical related material, etc.		

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Industrial Maintenance

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cabinet, Safety Glasses Storage	1	
Electric Drill - 3/8"	1	
Bench Grinder	1	
Hand Grinder	2	
Electric Sander	2	
Work/Test Bench		1:2
Digital Multimer		1:4
Analog Meter		1:4
Amprobe		1:4
Circular Saw	1	
Saber Saw	1	
Air (Pneumatic) Hammer	1	
Soldering Stations		1:1
Arc Welder	2	
Oxyacetylene Welding & Cutting Outfits with Truck	2	
Parts Cleaning Tank	1	
Tap & Die Set 1/16" to 1"	1	
Tap Extractor Set	1	
Fire Extinguisher	1	
Impact Wrench	1	
Impact Screwdriver	1	
Beaker Bar	2	
Adjustable and "T" Handle Top Wrench	2 each	
Hacksaw (power)	1	1:6
Vennier Caliper		1:6
Caliper Rule	2	
Circuit Tester		1:6
Micrometer		1:6
Lever Type Pressure Grease Gun	1	
"T" Handle Pressure Lube Gun	1	
Small Hydraulic System (to include basic elements of a typical hydraulic system	1	
Small Pneumatic System (to include basic elements of a typical pneumatic system)	1	
Tube Bender	1	
	1	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Industrial Maintenance

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Safety Glasses		1:1
First Aid Kit	1	
Hacksaw	1	
Screwdriver - Assorted (slotted, phillips, torx)	4 sets	
Wire Strippers	4	
Drill Bits - Assorted (countersink, hole saw, masonry bit, rotary file)	1 set	
Files - Assorted (flat, square, triangular, half-round, round)	2 sets	
Hammer, Ball Peen	2	
Hammer, Sledge	2	
Hammer, Chipping	2	
Hammer, Brass	2	
Mallet, Rubber	2	
Hammer, Plastic	2	
Flashlight, Safety, 2 Cell	2	
Pliers - Assorted (combination, channel locks, vise grips, diagonal cutters, needle nose)	4 sets	
Clamps (Assortment of Sizes)	4 of each size	
Scribes	4	
Combination Square	2	
Wrenches - Assorted (open end, box end, combination, socket, adjustable, pipe allen torque)	4 sets	
Chisels - Assorted (cold, cape, round, and diamond)	2 sets	
Snips (straight, aviation)	4	
Steel Measuring Tape, Metric and Zig-Zag Rule		1:1
Supply of Lubricants		
Assortment of Belts		
Assortment of Chain Drives		
Refrigerants		
Solder, Wick	5 rolls	
Solder, 1 lb. rolls	10	
Try, Flat, Combination Square		1:4
Electrical Tape	10	
Punches - Assorted (center, prick, aligning drift, pin)	10	
Impact Screwdriver	1	
Electrical Cord and Plugs	2	
Power Switches (assortment)		
Power Tool accessories (cut off wheels, abrasive discs, saw blades, Sable saw blades)		

219

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TRADE AND INDUSTRIAL EDUCATION
Supply List

Industrial Maintenance – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Thread Pitch Gauge	6	
Selection of bolts, screws, set screws, washers, heli-coils, expansion pins, studs, wing nuts, turnbuckles, casket nuts		
Plastic locking material		
Builders Level	2	
Plumb Bob	2	
Pressure Gauges (hydraulic and Pneumatic		1:6
Arc Welding Supplies		
Welding Gloves		1:6
Flint Lighter	6	
Welding Goggles		1:1
Wire Brush	6	
Wire Gauge	4	
Flaring Tool	4	
Reamer	4	
Tube Cutter	4	
Thermometer	4	
AC High Pressure and Compound Gauge	1:6	
Approximately $25 per student is needed to purchase consumable items such as: metal, fluids and wire, etc.		

220

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Masonry

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Mortar Box, Metal 8.4 Cu. Ft.	2	
Wheelbarrow	4	
Circular Saw, Masonry 14″	1	
Cabinet, w/Safety Glasses/Goggles	1	
* Trowel, Power Finishing	1	
Level, Transit w/Tripod & Story Pole	1	
Mixer, Mortar	1	
Pans, Mortar, Metal	1	
Circular Saw, Portable (Woodcutting)	1	
Scaffolding (complete w/2 Frames, Braces, & Planks)	4	
Corner Poles	4	
Magnesium Float, Bull, 48″	1	
Drill, Portable, 3/8″	1	
Drill, Portable, 1/2″	1	
Tongs, Brick	4	
Screwdriver, Set, Standard	1	
Screwedriver, Set, Phillips	1	
Wrench Set, Combination (3/8″-7/8″)	1	
Brick/Block Cart	4	

221

*Optional items are denoted by an asterisk.

TRADE AND INDUSTRIAL EDUCATION
Supply List

Masonry

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Level, 24″		1:1
Level, 48″		1:1
Trowel, Brick		1:1
Trowel, Finishing, (Cement)		1:4
Rule, 6′ Mason		1:1
Hammer, Brick		1:1
Shovel, Round		1:4
Shovel, Flat		1:8
Pick	1	
Axe	1	
Half Hatchet	2	
Maul	1	
Hoe, Mortar	2	
Broom (24″)		1:4
Handsaw, Crosscut	2	
Hammer, Claw 16 oz.	2	
Tape, 100′	2	
Square, Framing	2	
Chisel, Brick		1:4
Shears, Metal, Straight	1	
File, Mill, 10″ or 12″	1	
Bar, Wrecking	1	
Line, Chalk	1	
Plumb Bob	1	
Pliers, Slip Joint	1	
Clamps, C (4″)	6	
Brush, Hand	4	
Jointer, Mason's		1:1
Brush, Acid	4	
Rubber Gloves (Chemical)	4	
100′ - 230V Extension Cord	1	
Face Shield	2	
Hard Hat		1:1
Approximately $15 per student is needed to purchase consumable items such as: mortar, sand, flue tiles, etc.		

222

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Mechanical Systems Technology (HVAC and Plumbing)

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Work Tables, 4 Station w/lockers	4	
Vise, Bench, Utility	4	
Cabinet w/Safety Glasses/Goggles	1	
Drill, Variable Speed Portable, 3/8″	1	
Drill, Reversable Portable, 1/2″	1	
Bin, Parts	1	
Tap & Die Set	1	
Pump, Vacuum	1	
Gauges, Refrigeration Testing	1	
Detector, Electronic Leak	1	
Detector, Propane Leak	1	
Meter, Volt/Ohm	1	
Meter, Amp (inductance)	1	
Oxyacetylene Outfit (Less Tank)	1	
Prestolite Outfit	1	
Wrench Set, 3/8″ Socket, (7/16″ - 1″)	1	
* Thermometer, Electric Recording	1	
Cylinder, Charging	1	
Bench, Sheet Metal w/Stakes	1	
Bench, Sheet Metal Brake	1	
Shear, Electrical, Portable - Sheet Metal	1	
Ladder, Step 6′	1	
Screwdriver, (Set), Standard	1	
Screwdriver, (Set), Phillips	1	
* Grinder, Bench, 6″	1	
* Press, Drill, 15″	1	
Band Saw, Portable Metal Cutting	1	
Treader, Pipe, Electric w/Accessories	1	
Treader, Pipe, w/Handle & Dies, 1/2″ - 2″	1	
Cutter, Pipe 1/4″ - 2″	1	
Cutter, Pipe, 2″ - 4″	1	
Reamer, Pipe	1	
Vise, Pipe w/stand	1	
Gas, Propane Torch (Set)	1	
* Outfit, Arc Welder, AC	1	
Outfit, Lead Melting w/Propane Tank	1	
Copper Tubing Cutters and Benders (Set)	2	
Spur Bits, Self-Feed (Set)	1	
Saw, Bayonet (Reciprocating)	1	

223

*Optional

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Mechanical Systems Technology (HVAC and Plumbing) – *continued*

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Chisel, Wood (Set 1/4″, 1/2″, 3/4″, 1″)	1	
Chisel, Cold (Set)	1	
Bits, High Speed Metal, 1/16′-1/2″ (Set)	1	
Bits, Auger, Set 1/4″-1″ (Set)	1	
Bits, Spur, 1/2″ Shank, 1″-3″ (Set)	1	
Wrench (Set), Combination (3/8″-1″)	1	
Bender (Set), Tubing, Flex	1	
Flaring Tool (Set)	1	

224

TRADE AND INDUSTRIAL EDUCATION
Supply List

Mechanical Systems Technology (HVAC and Plumbing)

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Waste Can, Oily	1	
Wrenches Pipe, (12″, 14″, 18″, - one each)	1	
Hammer, Claw 16 oz.	1	
Hammer, Ball Pein 12 oz.	2	
Hammer, Ball Pein 20 oz.	1	
Level, Torpedo	1	
Level, 24″	2	
Square Combination	1	
Rule, 6′ Folding	6	
Tape, 25′ Retractable	1	
Saw, Keyhole	1	
Saw Compass	1	
Awl, Scratch	4	
Chisel, Wood 1/4″, 1/2″, 3/4″, 1″	1	
Bits, High Speed Metal, 1/16″ - 1/2″	1	
Shovel, Round	1	
Square, Framing	1	
Snips, Aviator LH	1	
Snips, Aviator RH	1	
Shears, Metal, Straight	1	
Files, Mill, Flat, (10″, 12″) 2 each	4	
Files, Round, (8″, 10″) 2 each	4	
Power Extension Cord, 50′ w/ground	2	
Knife, Putty, 1″	2	
Bar, Wrecking	1	
Saw, Hack	8	
Pliers, Slip Joint	1	
Pliers, Arc Joint	4	
Pliers, Diagonal Cutting	1	
Pliers, Linesman	1	
Clamps, C, 10″	4	
Brush, Wire	4	
Broom, 24″	4	
Brush, Bench	8	
Plumb Bob	1	
Bender Set, Tubing, Flex	1	
Cutter, Bolt 24″	1	

225

TRADE AND INDUSTRIAL EDUCATION
Supply List

Mechanical Systems Technology (HVAC and Plumbing) – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cutter, Tubing	8	
Ladder, Step, 6′	1	
Wrench, Chain	1	
Approximately $15 per student is needed to purchase consumable items such as: sandpaper, solder, flux, cooper tubing, etc.		

226

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Metals Manufacturing Technology

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Milling Machine, Vertical	2	
Milling Machine, Comb. Horizontal-Vertical	2	
Milling Machine, Horizontal-Universal	1	
Drill Press, 20" Variable Speed, Power Feed	1	
Drill Press, 15", Variable Speed	1	
3/8" Portable Electric Drill	1	
1/2" Heavy Duty Portable Drill	1	
9" Portable Hand Grinder	1	
Bandsaw Contour Type, 20" Metal Cutting	1	
Bandsaw, Metal Cutoff w/Coolant	1	
Lathe, Metalcutting 13"	4	
Lathe, Metalcutting 15"	4	
Grinder, Surface	1	
Vernier Caliper	6	
Foundry Furnace, #10 Crucible, Electrical or Gas Fired	1	
Acetylene Welding Set w/Truck	1	
Inside Micrometer	6	
Micrometer	6	
Micrometer Depth Gauge	6	
Gage Blocks	1 set	
Bench, General Machinist w/4 Vises	3	
Bench, Layout	1	
Tap and Die Set	2 sets	
Level Protractor	6	
Shaper, 7"	1	
Fire Extinguisher	1	
Cabinet, Safety Glasses Storage	1	
Dial Indicators	4	
Vernier Height Gages and Depth Gauge	2	
V-Blocks	2	
Surface Plate	1	
Telescoping Gage	2	
Parallels	2	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Metals Manufacturing Technology

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Reamers - Assortment		
Milling Cutters - Assortment		
Trist Drills - Assortment		
Lathe Bits - Assortment		
Center Drills		
Safety Glasses		1:1
Hand Saw Blades		
Heat Treat Supplies		
Protective Clothing		1:1
Scribes, Machine Scales (each)		1:1
Machinist's Handbook	3	
Screw Pitch Gage	6	
Files (Assorted)	4 sets	
Combination Sq. Set	4 sets	
Center & Prick Punches	6	
C-Clamps	6	
Screwdriver (Assorted)	2 sets	
Hacksaw	1	
First Aid Kit	1	
Approximately $25 per student is needed to purchase consumable items such as: metal, coolant and layout dye, etc.		

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Technical Drafting

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Drafting Table	20	
Drafting Stool	20	
Instructor Desk (Drawing Table)	1	
Instructor Chair (Drawing Table)	1	
42″ Printer	1	
Printer Table	1	
Tracing Table	1	
Paper Cutter	1	
Filing Cabinet - letter size	1	
Four Shelf Unit Storage Cabinet	2	
Flat Filing Cabinet 4 Section of 5 Drawer	1	
Machine, Drafting, Chalkboard	1	
Machine, Drafting, 24″	10	
Parallel Bars	10	
Computer Assisted Drafting System (CAD)	4	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Technical Drafting

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Cover, Drawing Board		1:1
Caliper, Dial 12″	2	
Gauge, Vernier Height 10″	2	
Micrometers, Outside 0″-1″	2	
Micrometers, Outside 1″-2″	2	
Micrometers, Depth	2	
Micrometers, Inside 2″-12″	2	
Gauges, Telescoping	2	
Gauge, Small Hole	2	
Rules, Flexible Steel		1:4
Calipers, Spring, Outside	2	
Calipers, Spring, Inside	2	
Gauge, Screw Pitch		1:4
Protractor, Bevel		1:4
Parallels, Adjustable	1	
Gauge, Radius	1	
Scales, Machine, 12″, Decimal	10	
Scales, Machine, 18″, Decimal	10	
Instrument Set		1:1
Scale, Triangular, Architect's, 12″		1:1
Scale, Triangular, Civil Engineer's 12″	5	
Scale, Triangular, Mechnical, 12″	10	
Scale, Triangular, Metric, 12″	10	
Device, Lettering		1:1
Triangle, Adjustable, 10″	5	
Triangle, 30 x 60 Degree 10″		1:1
Triange, 45 Degree, 8″		1:1
Curve, Irregular, Style #15		1:1
Shield, Erasing		1:1
Template, Screw Threads		1:1
Template, Machine & Capscrews		1:1
Template, Giant Ellipse	4	
Template, Electrical		1:1
Template, Housplan & Plumbing	10	
Template, Ellipse	10	
Template, Circles, Decimal	10	
Template, Bolts & Nuts	10	
Holder, Lead		1:1
Pointer, Lead		1:1

TRADE AND INDUSTRIAL EDUCATION
Supply List

Technical Drafting – *continued*

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Compass, Beam	4	
Lettering Set, Scriber Type Leroy	3	
Guides, Standard Lettering	1	
Brush, Dusting		1:1
Sharpenter, Wood Pencil, Drafter	2	
Shears, Trimming, 12"	2	
Chalkboard, Drawing Equipment	1	
Cleaner, Pen	1	
Pens, Technical	5	
Pens, Compassed Adapter	5	
Calculator, Slide Rule, Programmable	2	
Approximately $15 per student is needed to purchase consumable items such as: Lead, ink, paper, and reproduction chemicals.		

231

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Textiles

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Sound Page System Player	1	
Yarn Reel (Testing)	1	
Sliver Reel (Testing)	1	
Shadow Board Reel	1	
Strength Tester (yarn)	1	
Yarn Scales	1	
Filmstrip Projector	1	
Carding Machine	1	
Drawing Machines	1	
Roving Machine	1	
Spinning Machine	1	
Quilling Machine	1	
Winder Machine	1	
Loom (weaving)	1	
Loom (weaving)	1	
Knitting Machine	1	
Warp Stand	1	
Work Table	1	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Textiles

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Beaker, Stainless Steel, Flanged, 1000 Ml.	4	
Beaker, Stainless Steel, Standard 1200 Ml.	4	
Combs, AFRO (To be used with Inkle Looms)	20	
Graduated Cylinder, 25 Ml.	1	
Graduated Cylinder, 100 Ml.	1	
Graduated Cylinder, 500 Ml.	1	
Pick Glasses	20	
Pick Needles	20	
Reed Hooks	5	
Scissors	10	
Stirring Rods, Glass or Stainless Steel	5	
Thermometers, 0-220 F.	2	
Safety Glasses		1:1
Approximately $15 per student is needed to purchase consumable items such as: dye, yarn, etc.		

TRADE AND INDUSTRIAL EDUCATION
Equipment List

Welding

Equipment	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Single Station ARC Welding Booths	8	
SMAW Welder, AC/DC 225 AMPS, 30% Duty Cycle Mum.	6	
GTAW (Tig) Welder, w/Torch, Regulator and Accessories	2	
8" Pedestal Grinder with Pedestal	1	
Portable Hand Grinder Industrial Quality 7"	2	
Steel Top Layout Table 4 x 6	1	
Tap and Die Set 1/16" to 1"	1	
Mig GMAW Welding Unit/Wheel	1	
Portable Hand Grinder Industrial Quality 4"	1	
Flow Meters (Argon)	4	
Anvil w/Stand	1	
Oxyacetylene Welding & Cutting outfits w/Truck	2	
Vise, Swivel Base Machinist	2	
Pipe Cutter	1	
Drill, Electric, 3/8	2	
Drill, Electric, 1/2	1	
Vise, Pipe	1	
Drill Press, Motor & Stand 15"	1	
Shear, Sheet Metal, 16 Gauge Steel Cap, 36"	1	
Shear, Metal 6", 3/8" Capacity	1	
Saw, 16", Metal Cutoff (Abrasive)	1	
Torch, Track	1	
GMAW (Mig) Welder, w/Feeded, Gun, Regulator and Accessories	2	
Fire Extinguisher	1	
Guided Bend Testing Machine	1	
Tensile Testing Machine	1	
Cabinet, Safety Glasses Storage	1	

TRADE AND INDUSTRIAL EDUCATION
Supply List

Welding

Supplies	Suggested Quantity	
	Per Lab/ Classroom	Per Student Ratio Item: Student
Hoses, Acetylene (Set) (Part of oxyacetylene outfit)		
Lighter, Flint	10	
Welding Gloves		1:1
Glasses, Safety		1:1
Clothing, Protective		1:1
Welding Tips	10	
Steel Wire Brush	16	
Helmet, Welding		1:1
Hammer, Chipping	16	
Collet, Chuck (Part of Tig outfit)		
Stainless Steel Wire Brush	16	
Goggles, Welding		1:1
Drill Bits - Assorted	1 set	
Hearing Protector		1:1
Vise Grips 8"	10	
Pliers - 8" Slip Joint	10	
Hacksaw	2	
Files - Assorted	4 sets	
Screwdriver - Assorted	4 sets	
Tip Cleaners	6	
Cutting Tips	10	
C-Clamps	12	
Soapstone w/Holder	6	
Scibes, Steel Roles, Tape Measures (each)		1:1
Fire Brick		
Combination & Steel Framing Sq. (each)	6	
Steel # and Letter Stencils	1	
First Aid Kit	1	
Approximately $30 per student is needed to purchase consumable items such as: oxygen, acetylene, flux, etc.		

Excerpt from Senate Bill 23,
Section 90, 1983 General Assembly

APPENDIX .

VOCATIONAL EDUCATION RESOURCES

Sec. 90. (a) The State Board of Education shall develop equipment standards for each vocational program level and shall assist local school administrative units in determining the adequacy of equipment for each vocational program available in each local school administrative unit.

Further, the State Board shall develop a plan to assure that minimum equipment standards for each program shall be met within total vocational resources - State, local and federal- available at the local level no later than June 30, 1986. The State Board shall consider all reasonable and prudent means to meet these minimum equipment standards and to insure a balanced vocational program for students in the public schools including setting aside a stated amount or percentage of available resources per program and seeking surplus property, donations, grants or permanent loans of equipment.